DEPARTMENT OF NATURAL RESOURCES

LAW ENFORCEMENT DIVISION

WHOLESALE FISH DEALERS REPORT FORMS #9165

R 308.1
Source: 2013 AACS.

LOCAL HUNTING AND FIREARMS CONTROLS

R 317.101.1
Source: 1981 AACS.

R 317.106.1
Source: 1979 AACS.

R 317.108.1
Source: 1979 AACS.

R 317.108.2
Source: 1980 AACS.

R 317.111.1
Source: 1979 AACS.

R 317.111.2
Source: 1983 AACS.

R 317.120.1
Source: 1979 AACS.

R 317.120.2
Source: 1979 AACS.

R 317.120.3
Source: 1979 AACS.

R 317.123.1
Source: 1982 AACS.

R 317.123.2
Source: 1979 AACS.

R 317.123.3
Source: 1982 AACS.

R 317.123.4
Source: 1982 AACS.

R 317.124.1
Source: 1979 AACS.

R 317.125.1
Source: 1979 AACS.

R 317.125.2
Source: 1979 AACS.

R 317.125.3
Source: 1979 AACS.

R 317.125.4
Source: 1979 AACS.

R 317.125.5
Source: 1979 AACS.

R 317.125.6
Source: 1979 AACS.

R 317.125.7
Source: 1979 AACS.

R 317.125.8
Source: 1984 AACS.

R 317.135.1
Source: 1979 AACS.

R 317.135.2
Source: 1980 AACS.

R 317.135.3
Source: 1984 AACS.

R 317.138.1
Source: 1979 AACS.

R 317.138.2
Source: 1980 AACS.

R 317.138.3
Source: 1980 AACS.

R 317.139.1
Source: 1979 AACS.

R 317.139.2
Source: 1979 AACS.

R 317.147.1
Source: 1979 AACS.

R 317.147.2
Source: 1979 AACS.

R 317.147.3
Source: 1979 AACS.

R 317.147.4
Source: 1979 AACS.

R 317.147.5
Source: 1979 AACS.

R 317.147.5
Source: 1979 AACS.

R 317.147.6
Source: 1979 AACS.

R 317.147.7
Source: 1979 AACS.

R 317.147.8
Source: 1981 AACS.

R 317.150.1
Source: 1982 AACS.

R 317.150.2
Source: 1979 AACS.

R 317.150.3
Source: 1979 AACS.

R 317.150.4
Source: 1979 AACS.

R 317.150.5
Source: 1997 AACS.

R 317.150.6
Source: 2012 AACS.

R 317.150.7
Source: 2012 AACS.

R 317.150.8
Source: 2012 AACS.

R 317.150.9
Source: 1985 AACS.

R 317.150.10
Source: 1997 AACS.

R 317.150.12
Source: 1983 AACS.

R 317.151.1
Source: 1985 AACS.

R 317.163.1
Source: 1979 AACS.

R 317.163.2
Source: 1979 AACS.

R 317.163.3
Source: 1979 AACS.

R 317.163.4
Source: 1979 AACS.

R 317.163.5
Source: 1979 AACS.

R 317.163.6
Source: 1984 AACS.

R 317.163.7
Source: 1984 AACS.

R 317.163.8
Source: 1997 AACS.

R 317.163.9
Source: 1979 AACS.

R 317.163.10
Source: 1997 AACS.

R 317.163.11
Source: 1997 AACS.

R 317.163.12
Source: 1997 AACS.

R 317.163.13
Source: 1979 AACS.

R 317.163.14
Source: 1979 AACS.

R 317.163.15
Source: 1979 AACS.

R 317.163.16
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R 317.163.17
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R 317.163.18
Source: 1979 AACS.

R 317.163.19
Source: 1979 AACS.

R 317.163.20
Source: 1997 AACS.

R 317.163.21
Source: 1979 AACS.

R 317.163.22
Source: 1979 AACS.

R 317.163.23
Source: 1979 AACS.

R 317.163.24
Source: 1979 AACS.

R 317.163.25
Source: 1997 AACS.

R 317.163.26
Source: 1979 AACS.

R 317.163.27
Source: 1979 AACS.

R 317.163.28
Source: 1979 AACS.

R 317.163.29
Source: 1979 AACS.

R 317.163.30
Source: 1979 AACS.

R 317.163.31
Source: 1979 AACS.

R 317.163.32
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R 317.163.33
Source: 1979 AACS.

R 317.163.34
Source: 1979 AACS.

R 317.163.35
Source: 1979 AACS.

R 317.163.36
Source: 1997 AACS.

R 317.163.37
Source: 1979 AACS.

R 317.163.38
Source: 1997 AACS.

R 317.163.39
Source: 1979 AACS.

R 317.163.40
Source: 1979 AACS.

R 317.163.41
Source: 1997 AACS.

R 317.163.42
Source: 1985 AACS.

R 317.163.43
Source: 1980 AACS.

R 317.163.44
Source: 1984 AACS.

R 317.163.45
Source: 1981 AACS.

R 317.163.46
Source: 1981 AACS.

R 317.169.1
Source: 1979 AACS.

R 317.169.2
Source: 1980 AACS.

R 317.170.1
Source: 1979 AACS.

R 317.170.2
Source: 1979 AACS.

R 317.171.1
Source: 1979 AACS.

R 317.170.2
Source: 1979 AACS.

R 317.171.3
Source: 1985 AACS.

R 317.173.1
Source: 1985 AACS.

R 317.171.2
Source: 1979 AACS.

R 317.173.3
Source: 1982 AACS.

R 317.174.1
Source: 1979 AACS.

R 317.181.1
Source: 1979 AACS.

R 317.181.2
Source: 1979 AACS.

R 317.181.3
Source: 1979 AACS.

R 317.181.4
Source: 1979 AACS.

R 317.181.5
Source: 1982 AACS.

R 317.182.1
Source: 1983 AACS.

R 317.182.2
Source: 1979 AACS.

R 317.182.3
Source: 1979 AACS.

R 317.182.4
Source: 1979 AACS.

R 317.182.5
Source: 1979 AACS.

R 317.182.6
Source: 1979 AACS.

R 317.182.7
Source: 1979 AACS.

R 317.182.8
Source: 1980 AACS.

R 317.182.9
Source: 1983 AACS.

R 317.182.10
Source: 1983 AACS.

R 317.182.11
Source: 1982 AACS.

R 317.182.12
Source: 1982 AACS.

MACKINAC ISLAND STATE PARK COMMISSION

GENERAL RULES

PART 1. DEFINITIONS

R 318.111
Source: 2014 AACS.

R 318.112
Source: 2002 AACS.

R 318.113
Source: 2002 AACS.

R 318.114
Source: 2002 AACS.

R 318.115
Source: 2002 AACS.

R 318.116
Source: 2002 AACS.

R 318.117
Source: 2002 AACS.

R 318.118

Source: 2002 AACS.

R 318.119
Source: 2002 AACS.

R 318.119a
Source: 2002 AACS.

R 318.119b
Source: 1997 AACS.

R 318.119c
Source: 2002 AACS.

R 318.119d
Source: 2002 AACS.

R 318.120
Source: 2002 AACS.

PART 2. REGULATIONS

R 318.121
Source: 2002 AACS.

R 318.122
Source: 2014 AACS.

R 318.122a
Source: 2002 AACS.

R 318.122b
Source: 2002 AACS.

R 318.123
Source: 2002 AACS.

R 318.124
Source: 2002 AACS.

R 318.126
Source: 2002 AACS.

R 318.127
Source: 2002 AACS.

R 318.129
Source: 2002 AACS.

R 318.133
Source: 2002 AACS.

R 318.134
Source: 2002 AACS.

R 318.135
Source: 2002 AACS.

R 318.136

Source: 2002 AACS.

R 318.141
Source: 2002 AACS.

R 318.142
Source: 2002 AACS.

R 318.143
Source: 2014 AACS.

R 318.144
Source: 2002 AACS.

R 318.145
Source: 2014 AACS.

R 318.145a
Source: 1997 AACS.

R 318.145b
Source: 2002 AACS.

R 318.146
Source: 2014 AACS.

R 318.147
Source: 2002 AACS.

NATURAL RESOURCES COMMISSION

RECREATION BOND PROGRAM

R 318.201
Source: 2014 AACS.

R 318.202
Source: 2014 AACS.

R 318.203
Source: 2014 AACS.

R 318.204
Source: 2014 AACS.

R 318.205
Source: 2014 AACS.

R 318.206
Source: 2014 AACS.

R 318.207
Source: 2014 AACS.

R 318.208
Source: 2014 AACS.

R 318.209
Source: 1989 AACS.

R 318.210
Source: 1989 AACS.

R 318.211
Source: 2014 AACS.

WILDERNESS AND NATURAL AREAS

R 322.2.1
Source: 1979 AC.

R 322.2.2
Source: 1979 AC.

R 322.3.1
Source: 1979 AC.

R 322.11.1
Source: 1979 AC.

R 322.11.2
Source: 1979 AC.

R 322.27.1
Source: 1979 AC.

R 322.27.2
Source: 1979 AC.

R 322.38.1
Source: 1979 AC.

R 322.49.1
Source: 1979 AC.

R 322.49.2
Source: 1979 AC.

R 322.49.3
Source: 1979 AC.

R 322.49.4
Source: 1979 AC.

R 322.50.1
Source: 1979 AC.

R 322.55.1
Source: 2009 AACS.

R 322.61.1
Source: 1979 AC.

R 322.63.1
Source: 1979 AC.

R 322.63.2
Source: 1979 AC.

R 322.66.1
Source: 1979 AC.

R 322.66.2
Source: 1979 AC.

R 322.70.1
Source: 1979 AC.

R 322.71.1
Source: 1979 AC.

R 322.71.2
Source: 1979 AC.

R 322.72.1
Source: 1979 AC.

R 322.73.1
Source: 2008 AACS.

DEPARTMENT OF ENVIRONMENTAL QUALITY

LAND AND WATER MANAGEMENT

GREAT LAKES SUBMERGED LANDS

R 322.1001
Source: 1986 AACS.

R 322.1002
Source: 1982 AACS.

R 322.1003
Source: 1986 AACS.

R 322.1004
Source: 1982 AACS.

R 322.1005
Source: 1982 AACS.

R 322.1006
Source: 1982 AACS.

R 322.1007
Source: 1982 AACS.

R 322.1008
Source: 1982 AACS.

R 322.1009
Source: 1982 AACS.

R 322.1010

Source: 1982 AACS.

R 322.1011
Source: 1986 AACS.

R 322.1012
Source: 1982 AACS.

R 322.1013
Source: 2012 AACS.

R 322.1014
Source: 2012 AACS.

R 322.1015
Source: 1982 AACS.

R 322.1016
Source: 1982 AACS.

R 322.1017
Source: 1982 AACS.

R 322.1018
Source: 1982 AACS.

DEPARTMENT OF ENVIRONMENTAL QUALITY

SURFACE WATER QUALITY DIVISION

GENERAL RULES

R 323.1
Source: 1979 AACS.

R 323.2
Source: 2001 AACS.

R 323.3
Source: 1979 AACS.

R 323.4
Source: 2001 AACS.

R 323.5
Source: 2001 AACS.

R 323.6
Source: 1979 AACS.

R 323.7
Source: 1979 AACS.

R 323.8
Source: 2001 AACS.

R 323.9
Source: 2001 AACS.

R 323.10
Source: 1979 AACS.

R 323.11
Source: 1979 AACS.

R 323.12
Source: 1979 AACS.

R 323.13
Source: 1979 AACS.

R 323.14
Source: 1979 AACS.

DEPARTMENT OF ENVIRONMENTAL QUALITY

ENVIRONMENTAL ASSISTANCE DIVISION

WASTE TREATMENT PLANT OPERATORS

R 323.21--R 323.29
Editor's note: Transferred to R 323.1251--R 323.1259.

R 323.41--R 323.52
Editor's note: Transferred to R 323.1231--R 323.1242.

R 323.101
Source : 1979 AC.

DEPARTMENT OF NAUTURAL RESOURCES

NATURAL RESOURCES COMMISSION

STATE REVOLVING LOAN FUND

R 323.951
Source: 1989 AACS.

R 323.952
Source: 1989 AACS.

R 323.953
Source: 1989 AACS.

R 323.954
Source: 1989 AACS.

R 323.955
Source: 1989 AACS.

R 323.956
Source: 1989 AACS.

R 323.957
Source: 1989 AACS.

R 323.958

Source: 1989 AACS.

R 323.959
Source: 1989 AACS.

R 323.960
Source: 1989 AACS.

R 323.961
Source: 1989 AACS.

R 323.962
Source: 1989 AACS.

R 323.963
Source: 1989 AACS.

R 323.964
Source: 1989 AACS.

R 323.965
Source: 1989 AACS.

DEPARTMENT OF ENVIRONMENTAL QUALITY

WATER RESOURCES PROTECTION

PART 1. GENERAL PROVISIONS

R 323.1001
Source: 2001 AACS.

R 323.1003
Source: 2001 AACS.

R 323.1009
Source: 2001 AACS.

PART 2. ORGANIZATION, OPERATIONS, PROCEDURES, AND HEARINGS

R 323.1011
Source: 2001 AACS.

R 323.1012
Source: 2001 AACS.

R 323.1014
Source: 2001 AACS.

R 323.1015
Source: 2001 AACS.

R 323.1017
Source: 1997 AACS.

R 323.1018
Source: 2001 AACS.

R 323.1021
Source: 2001 AACS.

R 323.1023
Source: 2001 AACS.

R 323.1025
Source: 2001 AACS.

R 323.1027
Source: 1997 AACS.

R 323.1031
Source: 1997 AACS.

R 323.1032
Source: 1997 AACS.

R 323.1033
Source: 1997 AACS.

R 323.1034
Source: 1997 AACS.

R 323.1035
Source: 1997 AACS.

R 323.1036
Source: 1997 AACS.

R 323.1038
Source: 1997 AACS.

PART 4. WATER QUALITY STANDARDS

R 323.1041
Source: 2006 AACS.

R 323.1043
Source: 2006 AACS.

R 323.1044
Source: 2006 AACS.

R 323.1050
Source: 2006 AACS.

R 323.1051
Source: 1984 AACS.

R 323.1053
Source: 2006 AACS.

R 323.1055
Source: 2006 AACS.

R 323.1057
Source: 1997 AACS.

R 323.1058
Source: 1986 AACS.

R 323.1060

Source: 2006 AACS.

R 323.1062
Source: 2006 AACS.

R 323.1064
Source: 2006 AACS.

R 323.1065
Source: 2006 AACS.

R 323.1069
Source: 2006 AACS.

R 323.1070
Source: 1986 AACS.

R 323.1074
Source: 1997 AACS.

R 323.1075
Source: 1986 AACS.

R 323.1080
Source: 1997 AACS.

R 323.1082
Source: 2006 AACS.

R 323.1090
Source: 2006 AACS.

R 323.1091
Source: 1997 AACS.

R 323.1092
Source: 2006 AACS.

R 323.1096
Source: 2006 AACS.

R 323.1097
Source: 2006 AACS.

R 323.1098
Source: 1998-2000 AACS.

R 323.1099
Source: 1997 AACS.

R 323.1100
Source: 2006 AACS.

R 323.1103
Source: 1997 AACS.

R 323.1105
Source: 2006 AACS.

R 323.1110

Source: 1997 AACS.

R 323.1115
Source: 1997 AACS.

R 323.1116
Source: 2006 AACS.

R 323.1117
Source: 2006 AACS.

PART 5. SPILLAGE OF OIL AND POLLUTING MATERIALS

R 323.1151
Source: 2001 AACS.

R 323.1152
Source: 2001 AACS.

R 323.1153
Source: 2001 AACS.

R 323.1154
Source: 2001 AACS.

R 323.1155
Source: 2001 AACS.

R 323.1156
Source: 2001 AACS.

R 323.1157
Source: 2001 AACS.

R 323.1158
Source: 2001 AACS.

R 323.1159
Source: 2001 AACS.

R 323.1161
Source: 2001 AACS.

R 323.1163
Source: 2001 AACS.

R 323.1164
Source: 2001 AACS.

R 323.1169
Source: 2001 AACS.

PART 6. CLEANING AGENTS AND WATER CONDITIONERS

R 323.1171
Source: 2003 AACS.

R 323.1172
Source: 2003 AACS.

R 323.1173

Source: 2003 AACS.

R 323.1174
Source: 2003 AACS.

R 323.1175
Source: 2003 AACS.

R 323.1180
Source: 2003 AACS.

R 323.1181
Source: 2003 AACS.

PART 8. WATER QUALITY-BASED EFFLUENT LIMIT DEVELOPMENT FOR TOXIC SUBSTANCES

R 323.1201
Source: 1997 AACS.

R 323.1203
Source: 2006 AACS.

R 323.1205
Source: 2006 AACS.

R 323.1209
Source: 2006 AACS.

R 323.1211
Source: 2006 AACS.

R 323.1213
Source: 2006 AACS.

R 323.1217
Source: 2006 AACS.

R 323.1219
Source: 2006 AACS.

R 323.1221
Source: 2006 AACS.

PART 9. WASTEWATER REPORTING

R 323.1231
Source: 1997 AACS.

R 323.1232
Source: 1997 AACS.

R 323.1233
Source: 1997 AACS.

R 323.1234
Source: 1997 AACS.

R 323.1235
Source: 1997 AACS.

R 323.1236
Source: 1997 AACS.

R 323.1237
Source: 1997 AACS.

R 323.1238
Source: 1997 AACS.

R 323.1239
Source: 1997 AACS.

R 323.1240
Source: 1997 AACS.

R 323.1241
Source: 1997 AACS.

R 323.1242
Source: 1997 AACS.

PART 10. TREATMENT PLANT OPERATORS

R 323.1251
Source: 1979 AC.

R 323.1252
Source: 1979 AC.

R 323.1253
Source: 1979 AC.

R 323.1254
Source: 1979 AC.

R 323.1255
Source: 1979 AC.

R 323.1256
Source: 1979 AC.

R 323.1257
Source: 1979 AC.

R 323.1258
Source: 1979 AC.

R 323.1259
Source: 1979 AC.

PART 11. CONSTRUCTION GRANTS FOR WASTEWATER TREATMENT WORKS

R 323.1271
Source: 1998-2000 AACS.

R 323.1272
Source: 1998-2000 AACS.

R 323.1273
Source: 1998-2000 AACS.

R 323.1274
Source: 1998-2000 AACS.

R 323.1275
Source: 1998-2000 AACS.

R 323.1276
Source: 1998-2000 AACS.

R 323.1277
Source: 1998-2000 AACS.

R 323.1278
Source: 1998-2000 AACS.

R 323.1279
Source: 1998-2000 AACS.

R 323.1280
Source: 1998-2000 AACS.

R 323.1281
Source: 1998-2000 AACS.

R 323.1282
Source: 1998-2000 AACS.

R 323.1283
Source: 1998-2000 AACS.

R 323.1284
Source: 1998-2000 AACS.

R 323.1285
Source: 1998-2000 AACS.

R 323.1286
Source: 1998-2000 AACS.

R 323.1287
Source: 1998-2000 AACS.

R 323.1288
Source: 1998-2000 AACS.

PART 13. FLOODPLAINS AND FLOODWAYS

R 323.1311
Source: 1996 AACS.

R 323.1312
Source: 1996 AACS.

R 323.1313
Source: 1984 AACS.

R 323.1314
Source: 2008 AACS.

R 323.1315
Source: 1998-2000 AACS.

R 323.1316
Source: 1996 AACS.

R 323.1329
Source: 1996 AACS.

PART 15. IRON ORE BENEFICIATION

R 323.1351
Source: 1979 AC.

R 323.1352
Source: 1979 AC.

R 323.1353
Source: 1979 AC.

R 323.1354
Source: 1979 AC.

PART 17. SOIL EROSION AND SEDIMENTATION CONTROL

R 323.1701
Source: 1998-2000 AACS.

R 323.1702
Source: 1998-2000 AACS.

R 323.1703
Source: 1998-2000 AACS.

R 323.1704
Source: 1998-2000 AACS.

R 323.1705
Source: 1998-2000 AACS.

R 323.1706
Source: 1998-2000 AACS.

R 323.1707
Source: 2007 AACS.

R 323.1708
Source: 1998-2000 AACS.

R 323.1709
Source: 1998-2000 AACS.

R 323.1710

Source: 1998-2000 AACS.

R 323.1711
Source: 1998-2000 AACS.

R 323.1712
Source: 1998-2000 AACS.

R 323.1713
Source: 1998-2000 AACS.

R 323.1714
Source: 1998-2000 AACS.

PART 21. WASTEWATER DISCHARGE PERMITS

R 323.2101
Source: 2003 AACS.

R 323.2102
Source: 2005 AACS.

R 323.2103
Source: 2006 AACS.

R 323.2104
Source: 2006 AACS.

R 323.2106
Source: 2003 AACS.

R 323.2108
Source: 2006 AACS.

R 323.2109
Source: 2005 AACS.

R 323.2111.
Source: 2003 AACS.

R 323.2112
Source: 2003 AACS.

R 323.2114
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R 323.2115
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R 323.2117
Source: 2003 AACS.

R 323.2118
Source: 2003 AACS.

R 323.2119
Source: 2003 AACS.

R 323.2121
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R 323.2122
Source: 2003 AACS.

R 323.2124
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R 323.2125
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R 323.2126
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R 323.2127
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R 323.2128
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R 323.2130
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R 323.2131
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R 323.2133
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R 323.2134
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R 323.2136
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R 323.2137
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R 323.2138
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R 323.2139
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R 323.2140
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R 323.2141
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R 323.2142
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R 323.2145
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R 323.2146

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R 323.2147
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R 323.2149
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R 323.2150
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R 323.2151
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R 323.2153
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R 323.2154
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R 323.2155
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R 323.2159
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R 323.2160
Source: 2003 AACS.

R 323.2161
Source: 2006 AACS.

R 323.2161a
Source: 2003 AACS.

R 323.2162
Source: 1997 AACS.

R 323.2163
Source: 1997 AACS.

R 323.2164
Source: 1997 AACS.

R 323.2165
Source: 1997 AACS.

R 323.2166
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R 323.2167
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R 323.2168
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R 323.2169
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R 323.2170
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R 323.2172
Source: 1997 AACS.

R 323.2173
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R 323.2174
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R 323.2175
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R 323.2176
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R 323.2177
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R 323.2178
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R 323.2179
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R 323.2180
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R 323.2181
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R 323.2182
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R 323.2183
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R 323.2184
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R 323.2185
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R 323.2186
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R 323.2189
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R 323.2190
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R 323.2191
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R 323.2192
Source: 2003 AACS.

R 323.2193
Source: 2003 AACS.

R 323.2194
Source: 1998-2000 AACS.

R 323.2195
Source: 2003 AACS.

R 323.2196
Source: 2005 AACS.

R 323.2197
Source: 2006 AACS.

PART 22. GROUNDWATER QUALITY

R 323.2201
Source: 1998-2000 AACS.

R 323.2202
Source: 1998-2000 AACS.

R 323.2203
Source: 1998-2000 AACS.

R 323.2204
Source: 1998-2000 AACS.

R 323.2205
Source: 1998-2000 AACS.

R 323.2206
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R 323.2207
Source: 1998-2000 AACS.

R 323.2208
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R 323.2209
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R 323.2210
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R 323.2211
Source: 1998-2000 AACS.

R 323.2212
Source: 1998-2000 AACS.

R 323. 2213
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R 323.2214
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R 323.2215
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R 323.2216
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R 323.2217
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R 323.2220
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R 323.2221
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R 323.2222
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R 323.2223
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R 323.2224
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R 323.2225
Source: 1998-2000 AACS.

R 323.2226
Source: 1998-2000 AACS.

R 323.2227
Source: 1998-2000 AACS.

R 323.2229
Source: 1998-2000 AACS.

R 323.2230
Source: 1998-2000 AACS.

R 323.2231
Source: 1998-2000 AACS.

R 323.2232
Source: 1998-2000 AACS.

R 323.2233
Source: 1998-2000 AACS.

R 323.2234

Source: 1998-2000 AACS.

R 323.2235
Source: 1998-2000 AACS.

R 323.2237
Source: 1998-2000 AACS.

R 323.2238
Source: 1998-2000 AACS.

R 323.2240
Source: 1998-2000 AACS.

PART 23. PRETREATMENT

R 323.2301
Source: 1995 AACS.

R 323.2302
Source: 1995 AACS.

R 323.2303
Source: 1995 AACS.

R 323.2304
Source: 1995 AACS.

R 323.2305
Source: 1995 AACS.

R 323.2306
Source: 1995 AACS.

R 323.2307
Source: 1995 AACS.

R 323.2308
Source: 1995 AACS.

R 323.2309
Source: 1995 AACS.

R 323.2310
Source: 1995 AACS.

R 323.2311
Source: 1995 AACS.

R 323.2312
Source: 1995 AACS.

R 323.2313
Source: 1995 AACS.

R 323.2314
Source: 1995 AACS.

R 323.2315
Source: 1995 AACS.

R 323.2316
Source: 1995 AACS.

R 323.2317
Source: 1995 AACS.

DEPARTMENT OF ENVIRONMENTAL QUALITY

SURFACE WATER QUALITY DIVISION

WATER RESOURCES PROTECTION

PART 24. LAND APPLICATION OF BIOSOLIDS

R 323.2401
Source: 1998-2000 AACS.

R 323.2402
Source: 1998-2000 AACS.

R 323.2403
Source: 1998-2000 AACS.

R 323.2404
Source: 1998-2000 AACS.

R 323.2405
Source: 1998-2000 AACS.

R 323.2406
Source: 1998-2000 AACS.

R 323.2407
Source: 1998-2000 AACS.

R 323.2408
Source: 1998-2000 AACS.

R 323.2409
Source: 1998-2000 AACS.

R 323.2410
Source: 1998-2000 AACS.

R 323.2411
Source: 1998-2000 AACS.

R 323.2412
Source: 1998-2000 AACS.

R 323.2413
Source: 1998-2000 AACS.

R 323.2414
Source: 1998-2000 AACS.

R 323.2415
Source: 1998-2000 AACS.

R 323.2416
Source: 1998-2000 AACS.

R 323.2417
Source: 1998-2000 AACS.

R 323.2418
Source: 1998-2000 AACS.

SURFACE WATER QUALITY DIVISION

WATER RESOURCES PROTECTION

PART 30. WATER QUALITY TRADING

R 323.3001
Source: 2013 AACS.

R 323.3002
Source: 2013 AACS.

R 323.3003
Source: 2013 AACS.

R 323.3004
Source: 2013 AACS.

R 323.3005
Source: 2013 AACS.

R 323.3006
Source: 2013 AACS.

R 323.3007
Source: 2013 AACS.

R 323.3008
Source: 2013 AACS.

R 323.3009
Source: 2013 AACS.

R 323.3010
Source: 2013 AACS.

R 323.3011
Source: 2013 AACS.

R 323.3012
Source: 2013 AACS.

R 323.3013
Source: 2013 AACS.

R 323.3014
Source: 2013 AACS.

R 323.3015
Source: 2013 AACS.

R 323.3016
Source: 2013 AACS.

R 323.3017
Source: 2013 AACS.

R 323.3018
Source: 2013 AACS.

R 323.3019
Source: 2013 AACS.

R 323.3020
Source: 2013 AACS.

R 323.3021
Source: 2013 AACS.

R 323.3022
Source: 2013 AACS.

R 323.3023
Source: 2013 AACS.

R 323.3024
Source: 2013 AACS.

R 323.3025
Source: 2013 AACS.

R 323.3026
Source: 2013 AACS.

R 323.3027
Source: 2013 AACS.

DEPARTMENT OF ENVIRONMENTAL QUALITY

LAND AND WATER MANAGEMENT DIVISION

INLAND LAKES AND WETLANDS UNIT

AQUATIC NUISANCE CONTROL

R 323.3101
Source: 2003 AACS.

R 323.3102
Source: 2003 AACS.

R 323.3103
Source: 2003 AACS.

R 323.3104
Source: 2003 AACS.

R 323.3105
Source: 2003 AACS.

R 323.3106
Source: 2003 AACS.

R 323.3107
Source: 2003 AACS.

R 323.3108
Source: 2003 AACS.

R 323.3109
Source: 2003 AACS.

R 323.3110
Source: 2003 AACS.

DEPARTMENT OF ENVIRONMENTAL QUALITY

OFFICE OF ADMINISTRATIVE HEARINGS

CONTESTED CASE AND DECLARATORY RULING PROCEDURES

PART l. GENERAL PROVISIONS

R 324.1 Rescinded.
History: 2003 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 324.2 Rescinded.
History: 2003 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 324.3 Rescinded.
History: 2003 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 324.21 Rescinded.
History: 2003 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 324.23 Rescinded.
History: 2003 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 324.24 Rescinded.
History: 2003 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 324.31 Rescinded.
History: 2003 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 324.32 Rescinded.
History: 2003 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 324.33 Rescinded.
History: 2003 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 324.41 Rescinded.
History: 2003 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 324.42 Rescinded.
History: 2003 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 324.43 Rescinded.
History: 2003 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 324.51 Rescinded.
History: 2003 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 324.52 Rescinded.
History: 2003 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 324.53 Rescinded.
History: 2003 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 324.54 Rescinded.
History: 2003 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 324.55 Rescinded.
History: 2003 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 324.56 Rescinded.
History: 2003 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 324.57 Rescinded.
History: 2003 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 324.58 Rescinded.
History: 2003 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 324.59 Rescinded.
History: 2003 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 324.59a Rescinded.
History: 2003 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 324.59b Rescinded.
History: 2003 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 324.59c Rescinded.
History: 2003 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 324.59d Rescinded.
History: 2003 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 324.59e Rescinded.
History: 2003 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 324.61 Rescinded.
History: 2003 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 324.62 Rescinded.
History: 2003 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 324.63 Rescinded.
History: 2003 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 324.64 Rescinded.
History: 2003 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 324.65 Rescinded.
History: 2003 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 324.71 Rescinded.
History: 2003 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 324.72 Rescinded.
History: 2003 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 324.73
Source: 2003 AACS.

R 324.74
Source: 2003 AACS.

R 324.75 Rescinded.
History: 2003 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

PART 8. DECLARATORY RULINGS

R 324.81
Source: 2003 AACS.

DEPARTMENT OF NATURAL RESOURCES

PARKS AND RECREATION DIVISION

RECREATION PASSPORT

R 324.91
Source: 2014 AACS.

R 324.92
Source: 2014 AACS.

R 324.93
Source: 2014 AACS.

GEOLOGICAL SURVEY DIVISION

OIL AND GAS OPERATIONS

PART 1. GENERAL PROVISIONS

R 324.101
Source: 1996 AACS.

R 324.102 Definitions; A to M.
Rule 102. As used in these rules:

(a) “Act” means 1994 PA 451, MCL 324.101 to 324.90106.
(b) “ANSI” means the American national standards institute.
(c) “API” means the American petroleum institute.
(d) Aquifer means a geological formation, group of formations, or part of a formation that is capable of yielding a significant amount of water to a well or spring.
(e) “Authorized representative of the supervisor” means a department of environmental quality employee who is charged with the responsibility for implementation of the act or these rules.
(f) “Blowout prevention equipment” means a casinghead control device designed to control the flow of fluids from the well bore by closing around the drill pipe or production tubing or completely sealing the hole in the absence of drill pipe or production tubing.
(g) “Bottom hole” means the terminus of a wellbore.
(h) “Brine” means all nonpotable water resulting, obtained, or produced from the exploration, drilling, or production of oil or gas, or both.
(i) “Central production facility” means production equipment that has been consolidated at a central location that provides for the commingling of oil or gas production, or both, from 2 or more wells or production units of diverse ownership or from 2 or more prorated wells or production units.
(j) “Conformance bond” means a surety bond that has been executed by a surety company authorized to do business in this state, cash, certificates of deposit, letters of credit, or other securities that are filed by a person and accepted by the supervisor to ensure compliance with the act, these rules, permit conditions, instructions, orders of the supervisor, or an order of the department of environmental quality.
(k) “Directionally drilled well,” means a well purposely deviated from the vertical using controlled angles to reach an objective location.
(l) “Drilling completion” means the time when a well has reached its permitted depth or the supervisor has determined drilling has ceased.
(m) “Drilling operations” means all of the physical and mechanical aspects of constructing a well for the exploration or production of oil or gas, or both, for injection of fluids associated with the production of oil or gas, or both, or the storage of natural hydrocarbons or liquefied petroleum gas derived from oil or gas, and includes all of the following:
(i) Moving drilling equipment onto the drill site.
(ii) Penetration of the ground by the drill bit and drilling of the well bore.
(iii) Casing and sealing of the well bore.
(iv) Construction of well sites and access roads.
(n) “Drilling unit” means the area prescribed by an applicable well spacing rule or order for the granting of a permit for the drilling and operation of an oil or gas well, or both.
(o) “Facility piping” means piping that connects any of the following:
(i) Compressors.
(ii) Flares.
(iii) Loadouts.
(iv) Separators.
(v) Storage tanks.
(vi) Transfer pumps.
(vii) Treatment equipment.
(viii) Vents.
(p) “Fence” means a structure that is designed to deter access and consists of not less than 2 strands of barbed wire, 1 strand being approximately 18 inches above the ground and the other strand being approximately 42 inches above the ground, secured to supporting posts or means an equivalent structure that deters access.
(q) “Final completion” means the time when locating, drilling, deepening, converting, operating, producing, reworking, plugging, and proper site restoration have been performed on a well in a manner approved by the supervisor, including the filing of the mandatory records, and when the conformance bond has been released.
(r) “Flow line” means piping that connects a well or wells to a surface facility.
(s) “Fresh water” means water that is free of contamination in concentrations that may cause disease or harmful physiological effects and is safe for human consumption.
(t) “Gas storage” means the use of a depleted oil or gas pool, salt cavern, or other porous strata utilized for the purpose of injecting and withdrawing gas from the depleted oil or gas pool, salt cavern, or other porous strata.
(u) “Gathering line” means a pipeline that transports natural gas from a surface facility to a transmission pipeline.

(v) "Geologist" means a person who is certified as a geologist by a credible geological professional association or who, by reason of his or her knowledge of the natural sciences, mathematics, and the principles of geology acquired by professional education and practical experience, is qualified to engage in the practice of the science of geology.
(w) "Groundwater" means water below the land surface in the zone of saturation.
(x) "Injection well" means a well used to dispose of, into underground strata, waste fluids produced incidental to oil and gas operations or a well used to inject water, gas, air, brine, or other fluids for the purpose of increasing the ultimate recovery of hydrocarbons from a reservoir or for the storage of hydrocarbons.
(y) "Instruction" means a written statement of general applicability, which is issued by the supervisor, conforms with the act and rules promulgated under the act, and clarifies or explains the applicability of the act or rules to commonly recurring facts or circumstances.
(z) "Multiple zone completion" means a well constructed and operated to separately produce oil or gas, or both, from more than 1 reservoir through 1 well bore.
History: 1996 AACS; 2001 AACS; 2002 AACS; 2015 MR 5, Eff. March 11, 2015.

R 324.103 Definitions; N to Z.
Rule 103. As used in these rules:
(a) "Nuisance odor" means an emission of any gas, vapor, fume, or mist, or combination thereof, from a well or its associated surface facilities, in whatever quantities, that causes, either alone or in reaction with other air contaminants, injurious effects to human health or safety; unreasonable injurious effects to animal life, plant life of significant value, or property; or unreasonable interference with the comfortable enjoyment of life or property.
(b) "Oil and gas operations" means permitting activities required under R 324.201, drilling operations, well completion operations, operation of oil and gas wells, plugging operations, and site restoration.
(c) "Operation of oil and gas wells" means the process of producing oil or gas, or both, or the storage of natural hydrocarbons or liquefied petroleum gas, including all of the following:
(i) Production, pumping, and flowing.
(ii) Processing.
(iii) Gathering.
(iv) Compressing.
(v) Treating.
(vi) Transporting.
(vii) Conditioning.
(viii) Brine removal and disposal.
(ix) Separating.
(x) Storing.
(xi) Injecting.
(xii) Testing.
(xiii) Reporting.
(xiv) Maintenance and use of surface facilities.
(xv) Secondary recovery.
(d) "Organization report" means a listing of all corporate officers, directors, incorporators, partners, or shareholders who have the authority to make, or are responsible for making, operational decisions, including the siting, drilling, operating, producing, reworking, and plugging of wells.
(e) "Permit" means a permit to drill and operate an oil or gas well, or both, or an injection well, including associated surface facilities and flow lines.
(f) "Plugging operations" means the sealing of the fluids in the strata penetrated by an oil or gas well, or both, upon abandonment of the well or a portion of the well bore, so that the fluid from one stratum will not escape into another or to the surface.
(g) "Ppm" means parts per million by volume.
(h) "Producing interval" means any section of a wellbore that is open to, or intended to be open to, a formation or part of a formation that is intended to produce or is capable of producing oil or gas, or both, after well completion operations. The section of the wellbore may be open to the formation or part of the formation by any means, and may include but is not limited to, a section of a wellbore that is either uncased or has perforated casing.
(i) "Psi" means pounds per square inch.
(j) "Psig" means pounds per square inch gauge.
(k) "Secondary recovery" means the introduction or utilization of fluid or energy into or within a pool for the purpose of increasing the ultimate recovery of hydrocarbons from the pool.

(l) "Shut-in" means an action by a permittee to close down a producing well, a well capable of producing, or an injection well temporarily for any of the following reasons:
(i) Repair.
(ii) Cleaning out.
(iii) Building up reservoir pressure.
(iv) Planning for secondary recovery.
(v) Other injection projects.
(vi) While awaiting connection of a sales line.
(vii) Lack of a market.
(m) "Site restoration" means all of the following:
(i) The filling and leveling of all cellars, pits, and excavations.
(ii) The removal or elimination of all debris.
(iii) The elimination of all conditions that may create a fire or pollution hazard.
(iv) The minimization of erosion.
(v) The restoration of the well site as nearly as practicable to the original land contour or to a condition approved by the supervisor.
(n) "Structure used for public or private occupancy," means a residential dwelling or place of business, place of worship, school, hospital, government building, or other building where people are usually present at least 4 hours per day.
(o) "Supervisor" means the director of the department of environmental quality or his or her assistants as approved by the director of the department of environmental quality.
(p) "Surface casing" means the casing string or strings used primarily for protecting fresh water or mineralized water resources from potential contamination during the drilling and operation of an oil or gas well, or both.
(q) "Surface facility" means a facility used in the injection of fluids or in the production, processing, or treatment of oil or gas, or both, including any of the following:
(i) Pumping equipment.
(ii) Fluid disposal equipment.
(iii) Facility piping.
(iv) Load outs.
(v) Separators.
(vi) Storage tanks.
(vii) Treatment equipment.
(viii) Compressors.
(r) "Surface water" means a body of water, and the associated sediments, which has a top surface that is exposed to the atmosphere and is not solely for wastewater conveyance, treatment, or control. Surface water may be any of the following:
(i) A Great Lake or its connecting waters.
(ii) An inland lake or pond.
(iii) A river or stream, including intermittent streams.
(iv) An impoundment.
(v) An open drain.
(vi) A wetland.
(s) "Underground source of drinking water" means an aquifer or portion of an aquifer that satisfies either of the following criteria:
(i) The aquifer or portion thereof supplies a public water system.
(ii) The aquifer or portion thereof contains a sufficient quantity of ground water to supply a public water system and meets either of the following criteria:
(A) The aquifer or portion thereof currently supplies drinking water for human consumption.
(B) The aquifer or portion thereof contains ground water that has fewer than 10,000 milligrams per liter total dissolved solids.
(t) "Well completion" means the time when a well has been tested and found to be incapable of producing hydrocarbons in commercial quantities and has been plugged or has been found capable of producing commercial quantities of hydrocarbons or when the well has been equipped to perform the service for which it was intended.
(u) "Well completion operations" means work performed in an oil or gas well, or both, after the well has been drilled to its permitted depth and the production string of casing has been set, including perforating, artificial stimulation, and production testing.
(v) "Well location" means the surface location of a well.

(w) "Zoned residential" means a geographic area that was zoned by a local unit of government before January 8, 1993, as an area designated principally for permanent or recreational residences.
History: 1996 AACS; 2002 AACS; 2015 MR 5, Eff. March 11, 2015.

R 324.104
Source: 1996 AACS.

R 324.199
Source: 1996 AACS.

PART 2. PERMITS TO DRILL AND OPERATE

R 324.201 Application for permit to drill and operate requirements; issuance of permit.
Rule 201. (1) Until a person has complied with the requirements of subrule (2) of this rule, a person shall not begin the drilling or operation of a well for any of the following:
(a) Oil or gas, or both.
(b) Injection for secondary recovery.
(c) Injection for the disposal of brine, oil or gas field waste, or other fluids incidental to the drilling, producing, or treating of wells for oil or gas, or both, or the storage of natural hydrocarbons or liquefied petroleum gas derived from oil or gas.
(d) Injection or withdrawal for the storage of natural dry gas or oil well gas.
(e) Injection or withdrawal for the storage of liquid hydrocarbons or liquefied petroleum gas.
(2) A permit applicant shall comply with all of the following permit application requirements:
(a) The exact well location shall be surveyed by a surveyor licensed in this state, a readily visible stake or marker shall be set at the well location, and a flagged route shall be established to the well location.
(b) The survey required by subdivision (a) of this subrule shall include a plat that shows all of the following:
(i) The correct well location and bottom hole location description.
(ii) A flagged route or explanation of how the well location may be reached.
(iii) Footages from the nearest section, quarter section, and drilling unit lines.
(iv) Information relative to the approximate distances and directions from the stake or marker to special hazards or conditions, including all of the following:
(A) Surface waters and other environmentally sensitive areas within 1,320 feet of the proposed well. Environmentally sensitive areas are identified by the department pursuant to applicable state and federal laws and regulations.
(B) Floodplains associated with surface waters within 1,320 feet of the proposed well.
(C) Wetlands, as identified by the provisions of sections 30301 to 30323 of the act, within 1,320 feet of the proposed well.
(D) Natural rivers, as identified by the provisions of sections 30501 to 30515 of the act, within 1,320 feet of the proposed well.
(E) Critical dune areas, as designated by the provisions of sections 35301 to 35326 of the act, within 1,320 feet of the proposed well.
(F) Threatened or endangered species, as identified by the provisions of sections 36501 to 36507 of the act, within 1,320 feet of the proposed well.
(G) All buildings, recorded fresh water wells and reasonably identifiable fresh water wells utilized for human consumption, public roads, pipelines, and power lines that lie within 600 feet of the proposed well location.
(H) All public water supply wells identified as type I and IIa that lie within 2,000 feet of the proposed well location and type IIb and III that lie within 800 feet of the proposed well location, as defined in 1976 PA 399, MCL 325.1001 to 325.1023.
(I) Identification of the existing local zoning designation of the surface location of the well.
(c) If the applicant intends to utilize high volume hydraulic fracturing, the application shall include a list showing the specific identity and associated CAS number of each chemical constituent the applicant anticipates will be added to the primary carrier fluid, except that the specific identities and CAS numbers of trade secret chemicals may be withheld under the provisions of paragraph (i) of this rule.
(i) If the specific identity of a chemical constituent and its associated CAS number are a trade secret, the applicant may withhold the specific identity of the chemical constituent and its associated CAS number, but shall list the chemical family associated with the chemical constituent, or provide a similar description, and provide a statement that a claim of trade secret protection has been made by the entity entitled to make such a claim.

(ii) Listing of a chemical constituent under the requirements of this subdivision does not preclude a permittee from utilizing other chemical constituents in a high volume hydraulic fracturing operation; however, the chemical constituents actually used shall be submitted under the requirements of rule 1406 of these rules.
(d) One signed and sealed copy of the survey, on a form prescribed by the supervisor, shall be filed with an application for a permit to drill and operate or e-filed using a procedure approved by the supervisor.
(e) A person applying to drill and operate a well shall completely and accurately fill out, sign, and file a written application for a permit to drill on a form prescribed by the supervisor or e-filed using a procedure approved by the supervisor. The application shall be submitted to the supervisor at the offices of the Michigan Department of Environmental Quality, Office of Oil, Gas, and Minerals, P.O. Box 30256, Lansing, Michigan 48909, and a copy of the first page of the permit application shall be mailed to the clerk of the county and the surface owner of record of the land on which the well location is to be located within 7 days of submitting the permit application by first-class United States mail addressed to the surface owner's last known address as evidenced by the current property tax roll records.
(f) When the proposed well location is in or adjacent to any areas described in subdivision (b)(iv)(A) or (B) of this subrule, a person shall file for and obtain all applicable permits from the department of environmental quality before developing the well site or access to the well site or before drilling of the well. The person shall also file for and obtain any additional permits that may be required before the installation of flow lines or production equipment or before operating the well.
(g) A person shall file an environmental impact assessment as instructed by the supervisor.
(h) A person shall file an organization report if a current organization report is not on file with the supervisor.
(i) A person shall file a conformance bond or statement of financial responsibility pursuant to R 324.210.
(j) A person shall pay the fee as specified by statute. A fee filed with an application shall not be applied to a subsequent application. The fee shall be returned if a permit is not issued.
(k) All of the following additional information shall be submitted with an application for a permit to drill and operate an injection well or to convert a previously drilled well to an injection well:
(i) A plat that shows the location and total depth of the proposed injection well, shows each abandoned, producing, or drilling well and dry hole within 1,320 feet of the proposed injection well location, and identifies the surface owner of the land on which the proposed injection well location is to be located and each operator of a producing leasehold within 1,320 feet of the proposed injection well location.
(ii) If a well is proposed to be converted to an injection well, a copy of the completion report, together with the written geologic description log or record filed pursuant to R 324.418(a) and borehole and stratum evaluation logs filed pursuant to R 324.419(1). The permittee shall also file an application for change of well status pursuant to R 324.511.
(iii) Plugging records of all abandoned wells and casing, sealing, and completion records of all other wells within 1,320 feet of the proposed injection well location. An applicant shall also submit a plan reflecting the steps or modifications believed necessary to prevent proposed injected fluids from migrating up, into, or through inadequately plugged, sealed, or completed wells.
(iv) A schematic diagram of the proposed injection well that shows all of the following information:
(A) The total depth or plug-back depth of the proposed injection well.
(B) The true vertical depth and thickness of the disposal or injection interval.
(C) The geological name of the disposal interval.
(D) The geological name and the top and bottom depths of all fresh water strata to be penetrated.
(E) The depths of the top and bottom of the casing or casings and cement to be used in the proposed injection well.
(F) The size of the casing and tubing and the depth of the packer.
(v) Information confirming that injection of liquids into the proposed zone will not exceed the fracture pressure gradient or, information showing that injection into the proposed geological strata will not initiate fractures through the overlying strata.
(vi) Proposed operating data, excluding injection wells utilized for gas storage, including all of the following data:
(A) The daily injection rates and pressures.
(B) The types of fluids to be injected.
(C) A qualitative and quantitative analysis of a representative sample of fluids to be injected. A chemical analysis shall be prepared for each type of fluid to be injected showing specific conductance as an indication of the dissolved solids and a determination of the concentration of the following parameters for chemical balance and indicators for comparison of water quality:

Cations	Anions
Calcium	Chloride
Sodium	Sulfate
Magnesium	Bicarbonate

Potassium
However, if the fluid to be injected is fresh water, then an analysis is not required.
(D) The geological name of the injection strata and the vertical distance separating the top of the injection strata from the base of the deepest underground source of drinking water.
(E) A plan for conducting 5-year mechanical integrity tests of casing pursuant to R 324.805.
(vii) For a proposed injection well to dispose of oil or gas field waste, or both, into a zone that would likely constitute a producing oil or gas pool, a list of all offset operators and certification that the person making application for an injection well has notified all offset operators of the person's intention by certified mail. If within 21 days after the mailing date a substantive objection is filed with the supervisor by an offset operator, then the application shall not be granted without a hearing pursuant to part 12 of these rules. A hearing may also be scheduled by the supervisor to determine the need or desirability of granting permission for the proposed injection well.
(viii) A proposed plugging and abandonment plan.
(ix) Information demonstrating that construction of the well will prevent the movement of fluid containing any contaminant into an underground source of drinking water.
(l) A person shall receive and post the permit in a conspicuous place at the well location. The permit shall remain posted at the well location until well completion.
(3) A person who desires to directionally drill a well shall apply for and obtain a permit to drill and operate as provided in this rule. The application to drill a directionally drilled well shall include, in addition to the information specified in subrule (2) of this rule, all of the following information:
(a) The depth at which deviation from vertical is planned.
(b) The angle and path of each deviation.
(c) The proposed horizontal distance and direction from the well location to the bottom hole.
(d) The well's measured and true vertical depths.
(4) The supervisor shall process a permit application for a well and issue or deny a permit to drill and operate pursuant to section 61525 of the act. Pursuant to R 324.205, the supervisor shall not issue a permit to a person or an authorized representative of a person if the person is not eligible for a permit.
History: 1996 AACS; 2015 MR 5, Eff. March 11, 2015.

R 324.202 Directional redrilling.
Rule 202. (1) A permittee of a well who desires to directionally redrill an existing well to a different bottom hole location shall file an application for a new permit. The application shall set forth, in detail, the new bottom hole location and identify the plug-back depth of the existing well and shall be filed under R 324.201(3). The directional redrilling shall not be commenced until the application has been approved by the supervisor or authorized representative of the supervisor, except as provided in subrule (2) of this rule. A new permit and an additional fee shall be required.
(2) A permittee of a well who desires to directionally redrill an existing permitted drilling well to a different bottom hole location with the drilling rig then on location shall obtain approval from the supervisor or authorized representative of the supervisor. Approval to redrill shall be obtained by contacting the authorized representative of the supervisor in person or by telephone and providing pertinent details of the proposed directional redrilling. Approval may be granted immediately if all of the following provisions are complied with:
(a) The existing drilled hole is plugged back before starting the new directional hole under the provisions of these rules.
(b) The permittee provides an adequate description of the proposed directional redrill, including the depth, angle, and path of the deviation, and the bottom hole location.
(c) The well has adequate bonding or a statement of financial responsibility has been filed under R 324.210.
(3) If approval to directionally redrill is granted, a permittee of a well shall obtain a new permit and pay an additional fee. The application for a new permit and additional fee shall be filed within 10 days at the offices of the Michigan Department of Environmental Quality, Office of Oil, Gas, and Minerals, P.O. Box 30256, Lansing, Michigan 48909. In addition to other enforcement actions, failure to comply with this subrule shall be cause for immediate suspension of any or all components of the oil and gas operations on the well.
(4) A well log and plugging record shall be filed on the plugged-back hole under these rules.
History: 1996 AACS; 2002 AACS; 2015 MR 5, Eff. March 11, 2015.

R 324.203 Lost holes.
Rule 203. (1) A permittee of a well shall obtain approval to skid a rig or move to start a new hole when a hole has been lost. A new permit or additional fee is not required if the new well location is within 165 feet of the lost hole and the drilling unit is not changed.

(2) A permittee of a well may obtain approval for skidding a rig or moving to a new well location because of a lost hole from the authorized representative of the supervisor in person or by telephone. Approval may be granted immediately if all of the following provisions are complied with:
(a) The lost hole shall be plugged before starting the replacement hole under the provisions of these rules.
(b) The new well location shall be made at a safe distance from the lost hole.
(c) The permittee provides an adequate description of the new bottom hole location.
(d) The new well location shall not create surface waste.
(e) An amended application with corrected attachments and supplements shall be filed within 5 business days at the offices of the Michigan Department of Environmental Quality, Office of Oil, Gas, and Minerals, P.O. Box 30256, Lansing, Michigan 48909. In addition to other enforcement actions, failure to comply with this subrule shall be cause for suspension of any or all components of the oil and gas operations on the well.
(f) A well log and well plugging record shall be filed on all lost holes under the provisions of these rules.
History: 1996 AACS; 2002 AACS; 2015 MR 5, Eff. March 11, 2015.

R 324.204
Source: 1996 AACS.

R 324.205
Source: 1996 AACS.

R 324.206 Modification of permits; deepening permits; change of ownership.
Rule 206. (1) A permit shall not be transferred to a location outside of the drilling unit.
(2) A permittee of a well who has not initiated drilling of a well shall not do either of the following:
(a) Change the well location within the drilling unit without the prior approval of the supervisor or authorized representative of the supervisor. To receive approval, a permittee shall return the permit to the Lansing office of the supervisor together with a revised application with corrected attachments and supplements. If the permittee requests a change in the well location, then a new permit and an additional fee are required. Drilling shall not begin until the new permit or revised permit has been issued by the supervisor or authorized representative of the supervisor and posted at the drilling site.
(b) Change the method of drilling, casing and sealing programs, or other conditions of the permit without the prior approval of the supervisor or authorized representative of the supervisor. To receive approval, the permittee shall return the permit to the Lansing office of the supervisor together with a revised application with corrected attachments and supplements. If the permittee only requests a modification of the existing permit conditions, then an additional fee is not required. Drilling shall not begin until the revised permit has been approved by the supervisor or authorized representative of the supervisor and posted at the drilling site.
(3) A permittee of a well who begins the drilling of a well and encounters drilling problems or other drilling conditions that necessitate a change shall not do either of the following:
(a) Change the well location within the drilling unit, other than as provided by R 324.203, without the prior approval of the supervisor or authorized representative of the supervisor. To receive approval to change the well location, the permittee shall return the permit to the Lansing office of the supervisor together with a revised application with corrected attachments and supplements. Drilling shall not begin at the new location until the new permit has been issued by the supervisor or authorized representative of the supervisor. A new permit and an additional fee are required.
(b) Change the method of drilling, casing and sealing programs, or other conditions of the permit without the prior approval of the supervisor or authorized representative of the supervisor. To receive approval to modify an existing permit condition only, the permittee shall contact the supervisor or authorized representative of the supervisor by letter, telephone, or visit and explain the drilling circumstances and request the necessary changes to the permit. The supervisor or authorized representative of the supervisor may give verbal approval to modify the permit with conditions for additional reporting requirements by the permittee. If approval to modify an existing permit is granted, then the revised permit and corrected attachments and supplements shall be filed, within 10 days, at the offices of the Michigan Department of Environmental Quality, Office of Oil, Gas, and Minerals, P.O. Box 30256, Lansing, Michigan 48909. An additional permit fee is not required.
(4) A permittee of a well who desires to deepen a well below the permitted stratigraphic or producing horizon where well completion has occurred shall file an application for a deepening permit. The application shall set forth, in detail, the new proposed total depth and the plan for casing and sealing off the oil, gas, brine, or fresh water strata to be found, or expected to be found, in the deepening operation. The deepening operation shall not be commenced until the application

has been approved by the supervisor or authorized representative of the supervisor. A deepening permit and an additional fee are required.
(5) A permittee of a well who desires to continue the drilling of a well below the permitted depth, but within the permitted stratigraphic or producing horizon where drilling completion or well completion has occurred, shall file an application for change of well status pursuant to R 324.511. The application shall set forth, in detail, the new proposed total depth and the plan for casing and sealing off the oil, gas, brine, or fresh water strata found, or expected to be found, when drilling is continued. The approval of the change of well status shall serve to revise the permit to reflect the new permitted depth. The continuation of drilling shall not be commenced until the application for change of well status has been approved by the supervisor or authorized representative of the supervisor. To obtain approval to continue the drilling below the permitted depth, but within the permitted stratigraphic or producing horizon with the drilling rig then on location, the permittee shall contact the supervisor or authorized representative of the supervisor by letter, telephone, or visit and explain the circumstances for the request to continue the drilling. The supervisor or authorized representative may give verbal approval to continue the drilling below the permitted depth, but within the permitted stratigraphic or producing horizon. If approval to continue the drilling is granted, then the permittee shall file the application for change of well status pursuant to R 324.511, within 10 days of approval, at the offices of the Michigan Department of Environmental Quality, Office of Oil, Gas, and Minerals, P.O. Box 30256, Lansing, Michigan 48909. An additional permit fee is not required.
(6) If a permittee of a well conveys his or her rights as an owner of a well to another person, or ceases to be the authorized representative of the owner of a well, before final completion, then a request for the transfer of the permit to the acquiring person shall be submitted by the acquiring person to the supervisor at the offices of the Michigan Department of Environmental Quality, Office of Oil, Gas, and Minerals, P.O. Box 30256, Lansing, Michigan 48909, on forms as prescribed by the supervisor. The transfer of the permit may be approved upon receipt of a properly completed request, including the signatures of the permittee of record and the acquiring person, and upon the filing by the acquiring person of the conformance bond or a statement of financial responsibility as required by R 324.210. Pending the transfer of the existing permit, the acquiring person shall not operate the well. The acquiring person shall be required to file an organization report pursuant to R 324.201(2)(g).
(7) A permit for a well shall not be transferred to a person who has been determined to be in violation of any of the following until the permittee has corrected the violation or the supervisor has accepted a compliance schedule and a written agreement has been reached to correct the violations:
(a) The act.
(b) These rules.
(c) Permit conditions.
(d) Instructions.
(e) Orders of the supervisor.
(f) An order of the department of environmental quality.
An additional conformance bond covering the period of the compliance schedule may be required. The conformance bond shall be in addition to the conformance bonds filed pursuant to R 324.212(a) or (b).
(8) If the permittee of a well is under notice because of unsatisfactory conditions at the well site involved in the transfer, then the permit for a well shall not be transferred to a person until the permittee has completed the necessary corrective actions or the acquiring person has entered into a written agreement to correct all of the unsatisfactory conditions.
History: 1996 AACS; 2015 MR 5, Eff. March 11, 2015.

R 324.207
Source: 2002 AACS.

R 324.208
Source: 1996 AACS.

R 324.209
Source: 1996 AACS.

R 324.210
Source: 2002 AACS.

R 324.211
Source: 2002 AACS.

R 324.212
Source: 1996 AACS.

R 324.213
Source: 2002 AACS.

R 324.214
Source: 1996 AACS.

R 324.215
Source: 1996 AACS.

R 324.216
Source: 1996 AACS.

PART 3. SPACING AND LOCATION OF WELLS

R 324.301 Drilling unit; well location; exceptions.
Rule 301. (1) The following provisions specify requirements for the location and spacing of wells to be drilled for oil or gas, or for wells for oil and gas where a change of well status or stimulation of the well will result in changes to the producing interval, except for injection wells and wells to be drilled in gas storage reservoirs, liquid petroleum gas storage reservoirs, unitized areas, and other specifically designated areas or geological formations where special spacing orders, rules, or determinations are in effect:
(a) The drilling unit for wells for oil or gas shall be a legal subdivision of 40 acres, more or less, defined as a governmental surveyed quarter-quarter section of land. The drilling unit shall conform to 1 of the quarter-quarters of a governmental surveyed section of land, with allowances being made for the differences in the size and shape of sections as indicated by official governmental survey plats.
(b) The producing interval of a well for oil or gas shall be not less than 330 feet from the drilling unit boundary.
(c) For purposes of interpreting requirements for the location and spacing of wells under these rules, the producing interval location of a well that is not intentionally drilled directionally or horizontally shall be presumed to be directly beneath the well location.
(d) A permit may be issued on a drilling unit that is not totally leased, pooled, or communitized subject to the following conditions:
(i) The application for permit shall be accompanied by a certified statement establishing that a good faith effort had been made to obtain the lease or leases or to obtain a communitization agreement to form a full drilling unit and that such effort failed.
(ii) No portion of the well bore shall transect any tract prior to such time as the tract is leased, pooled, or communitized.
(iii) The permittee of the well shall not construct or operate any portion of the well, drill pad, access road, pipeline, or other drilling operations or well completion operations subject to the permit on any tract that is not leased unless the permittee has obtained the necessary rights to construct or operate under a surface access agreement or other applicable instrument.
(iv) Before the well is placed on regular production, a pooled drilling unit shall be formed by voluntary agreement or statutory pooling pursuant to R 324.304.
(2) The well surface location and associated surface facilities for wells drilled and constructed after September 20, 1996 shall be located not less than 300 feet from existing recorded fresh water wells and reasonably identifiable fresh water wells utilized for human consumption and existing structures used for public or private occupancy.
(3) The well separators, storage tanks, and treatment equipment installed or constructed after September 20, 1996 shall be located not less than 2,000 feet from type I and IIa public water supply wells and not less than 800 feet from type IIb and III public water supply wells, as defined in the safe drinking water act, 1976 PA 399, MCL 325.1001 to 325.1023.
(4) Exceptions to the location and spacing of wells may be granted in the following instances:
(a) The supervisor or authorized representative of the supervisor issues a permit for an off-pattern or nonconforming drilling unit well after a hearing to determine the need or desirability of issuing the permit. The wells shall be subject to the restricted or adjusted allowables that the supervisor considers necessary to ensure that the owners shall be afforded the opportunity to produce their just and equitable share of the oil and gas from the reservoir and to prevent waste.
(b) The supervisor or authorized representative of the supervisor issues a permit for a well where the surface location is closer than 300 feet from all existing recorded fresh water wells and reasonably identifiable fresh water wells utilized for human consumption and existing structures used for public or private occupancy upon presentation, to the supervisor, of

written consent signed by the owner or owners of all existing fresh water wells and reasonably identifiable fresh water wells utilized for human consumption and existing structures used for public or private occupancy.
(c) The supervisor determines the well surface location or location of associated surface facilities will prevent waste, protect environmental values, and not compromise public safety after a hearing pursuant to part 12 of these rules.
(d) The supervisor approves an application to pool or communitize tracts or mineral interests pursuant to R 324.303(2).
History: 1996 AACS; 2015 MR 5, Eff. March 11, 2015.

R 324.302 Adoption of special spacing orders.
Rule 302. The development of an oil or gas field may warrant the adoption of drilling units and well spacing patterns other than as specified in R 324.301(1). An interested person may request, or the supervisor may schedule, a hearing pursuant to part 12 of these rules to consider the need or desirability of adopting a special spacing order to apply to a designated area, field, pool, or geological strata. The drilling unit established by the special spacing order may be smaller or larger than the basic 40-acre unit pursuant to R 324.301(1)(a).
History: 1996 AACS; 2015 MR 5, Eff. March 11, 2015.

R 324.303 Voluntary pooling.
Rule 303. (1) The lessees or lessors, or both, of separate tracts or mineral interests that lie partially or wholly within an established drilling unit or larger area may pool or communitize the tracts or interests to form full drilling units or multiples of full drilling units and to develop the units pursuant to the provisions of these rules and the applicable orders of the supervisor.
(2) Persons who pool or communitize the tracts or interests may submit an application to the supervisor to abrogate spacing within the pooled or communitized area. The application shall include a certified copy of the pooling or communitization agreement and the plans for exploration or development. The supervisor may approve the application if all of the following conditions are satisfied:
(a) Waste is prevented.
(b) The drilling of unnecessary wells is prevented.
(c) A producing interval of a well is not located closer than 330 feet from the pooled or communitized area boundary.
(3) The lessees and lessors of separate tracts or mineral interests that lie partially or wholly within an area encompassing 2 or more full drilling units may voluntarily pool the tracts or interests to form a development unit for the purpose of receiving a permit for a well as an exception to R 324.301(1) or special spacing orders adopted pursuant to R 324.302, if the producing interval location of the well is found by the supervisor to ensure each producer is afforded the opportunity to use his or her just and equitable share of the reservoir energy and to prevent waste, including the drilling of unnecessary wells.
History: 1996 AACS; 2015 MR 5, Eff. March 11, 2015.

R 324.304 Statutory pooling.
Rule 304. The supervisor may require the pooling of tracts or mineral interests within a drilling unit when the owners of the tracts or mineral interests have not agreed, or do not agree, upon the pooling of the interests to form full drilling units pursuant to these rules and the applicable spacing orders. The statutory pooling shall be done on a basis which ensures that each owner of an interest within a drilling unit is afforded the opportunity to receive his or her just and equitable share of the production from the unit. Statutory pooling shall be adopted by the supervisor only after a hearing pursuant to part 12 of these rules.
History: 1996 AACS; 2015 MR 5, Eff. March 11, 2015.

PART 4. DRILLING AND WELL CONSTRUCTION

R 324.401
Source: 1996 AACS.

R 324.402
Source: 1996 AACS.

R 324.403
Source: 1996 AACS.

R 324.404

Source: 1996 AACS.

R 324.405
Source: 1996 AACS.

R 324.406
Source: 1996 AACS.

R 324.407 Drilling mud pits.
Rule 407. (1) The supervisor shall prohibit the use of a drilling mud pit if it is determined that the mud pit causes waste.
(2) Drill cuttings, muds, and fluids shall be confined by a pit, tank, or container which is of proper size and construction and which is located as approved by the supervisor or authorized representative of the supervisor.
(3) Only tanks shall be utilized while drilling a well that is located in an area zoned residential before January 8, 1993. The supervisor may grant an exception if the applicant or permittee makes a request for an exception as part of the written application for a permit. The supervisor may grant an exception if an applicant or permittee satisfactorily demonstrates that a municipal water system is utilized or required to be utilized.
(4) Drilling mud pits shall be located and plotted as instructed by the supervisor. Before construction of the mud pit, a permittee shall demonstrate to the supervisor or authorized representative of the supervisor that there is not less than 4 feet of vertical isolation between the bottom of the pit and the uppermost groundwater level. The bottom of the liner shall not be installed within the observed groundwater level as determined while excavating the pit. If groundwater is encountered during or before construction of the pit, then the permittee shall select 1 of the following options and obtain the approval for the option from the supervisor or authorized representative of the supervisor:
(a) The pit shall be designed and constructed so the bottom of the pit is not less than 4 feet above the groundwater level.
b) The pit shall be designed and constructed so the bottom of the pit is above the groundwater level, but less than 4 feet above the groundwater level, and during encapsulation the pit contents shall be solidified using a method approved by the supervisor.
(c) The pit shall be relocated at the well site as approved by the supervisor or authorized representative of the supervisor.
(d) Tanks shall be used, and drilling muds disposed of, at an approved off-site location.
(5) Drilling mud pits shall be constructed as instructed by the supervisor and shall be in compliance with both of the following minimum requirements:
(a) Pits shall be constructed with rounded corners and side slopes of not less than 20 degrees measured from the vertical.
(b) The bottom and sides of the pit shall be free of objects that could penetrate the liner.
(6) Drilling mud pits shall be lined as instructed by the supervisor and shall be in compliance with all of the following minimum requirements:
(a) Pits shall be lined with 20-mil virgin polyvinyl chloride liners as approved by the supervisor or with other liners that meet or exceed the 20-mil virgin polyvinyl chloride liner requirement.
(b) Ample liner material shall be installed in a manner to allow for sags and material loading to reduce stress on the liner and allow for a minimum 10-foot flat apron on all sides, including enough liner material to underlay the drilling mud tank, salt washer, and shale shaker.
(c) The bottom of the lined pit shall be weighted with earthen material or water before anchoring the ends of the liner on the surface or placing drilling muds in the pit.
(d) Ripping, tearing, puncturing, or other destruction of a liner that may cause loss of fluids is prohibited.
(e) Liner field seams are prohibited, except for liner field seams that result from failures in the liner due to abrasion or accidental perforation, which shall be immediately repaired in the field using the manufacturer's recommended procedures.
(7) Drilling mud pits shall be utilized as instructed by the supervisor and shall be in compliance with all of the following minimum requirements:
(a) Solid salt cuttings shall not be released to inground drilling mud pits. Solid salt cuttings obtained while drilling below the base of the Detroit River Anhydrite to the top of the Amherstburg formation and while drilling through the formations in the Salina Group shall be collected in a container at the shale shaker and either diverted to a device that will result in the dissolving of the solid salt cuttings and the proper disposal of the resultant brine pursuant to R 324.703 or removed from the drilling site to a licensed disposal facility.
(b) Twenty-four months after the effective date of these rules, only the following may be placed in a lined pit:
(i) Water-based drilling muds generated or utilized while drilling above the base of the Detroit River Anhydrite.
(ii) Drilling fluids generated or utilized while drilling above the base of the Detroit River Anhydrite.
(iii) Cuttings obtained while drilling above the base of the Detroit River Anhydrite.

(iv) Cuttings and the solid fraction of drilling muds generated or utilized while drilling below the base of the Detroit River Anhydrite, other than drill cuttings prohibited by subdivision (a) of this subrule, if the cuttings and the solid fraction of drilling muds do not contain free liquids as determined by the United States environmental protection agency, paint filter liquids test, method 9095, September 1986 edition, which is adopted by reference in these rules. Copies are available for inspection at the Lansing office of the office of oil, gas, and minerals of the department of environmental quality. Copies may be obtained without charge as of the time of adoption of these rules from the Michigan Department of Environmental Quality, Office of Oil, Gas, and Minerals, P.O. Box 30256, Lansing, Michigan 48909, or from the United States Environmental Protection Agency, Office of Research and Development, 26 West Martin Luther King Boulevard, Cincinnati, Ohio 45268. A permittee shall provide the necessary equipment at the site of the drilling rig to perform the paint filter liquids test.
(v) Water-based drilling muds and entrained cuttings, other than drill cuttings prohibited by subdivision (a) of this subrule, which are generated or utilized while drilling below the base of the Detroit River Anhydrite, which contain weighting materials or lost circulation materials, and which cannot reasonably be treated to eliminate free liquids as determined by the paint filter liquids test identified in paragraph (iv) of this subdivision, if approved by the supervisor or authorized representative of the supervisor.
(vi) Native soils.
(vii) Cementing materials.
(viii) Stiffening or solidification materials approved by the supervisor.
(c) During the initial 24 months after the effective date of these rules, only the following may be placed in a lined pit:
(i) Water-based drilling muds.
(ii) Drilling fluids.
(iii) Cuttings that are not prohibited by subdivision (a) of this subrule.
(iv) Native soils.
(v) Cementing materials.
(vi) Stiffening or solidification materials approved by the supervisor.
(d) Machine oil, refuse, completion and test fluids, liquid hydrocarbons, or other materials may not be placed in a lined pit.
(e) A permittee of a well shall, before encapsulation, test the fluids and cuttings remaining in the pit to determine the concentrations of benzene, ethylbenzene, toluene, and xylene and provide certification to the supervisor or authorized representative of the supervisor of the test results, except that a permittee is not required to test the fluids and cuttings remaining in the pit for benzene, ethylbenzene, toluene, and xylene if the well was drilled with water from a source approved by the supervisor and if, during the drilling operation, liquid hydrocarbons were not encountered.
(8) If a drilling mud pit is not closed immediately after reaching drilling completion, then a permittee of a well shall fence the perimeter of the drilling mud pit as soon as practical after drilling completion, but not later than 30 days after drilling completion, to prevent public access.
(9) A permittee of a well shall close a drilling mud pit as instructed by the supervisor and be in compliance with all of the following minimum requirements:
(a) All free liquids above the solids in the pit shall be removed to the maximum extent practical and disposed of in an approved disposal well or used in a manner approved by the supervisor.
(b) All drilling mud pits shall be stiffened before encapsulation, except as provided in subrule (4)(b) of this rule. Earthen materials shall be mixed with the pit contents to stiffen the pit contents sufficiently to provide physical stability and support for the pit cover. An alternative pit stiffening process approved by the supervisor may be used at the option of a permittee or if required by the supervisor.
(c) The drilling mud pit shall be carefully encapsulated and buried as soon as practical after drilling completion, but not more than 6 months after drilling completion.
(d) Apron edges of the liner shall be folded over the pit proper.
(e) The drilling mud pit shall be totally covered with a separate piece of material that meets or exceeds the specifications of a 20-mil virgin polyvinyl chloride cover as approved by the supervisor. The cover shall extend beyond the outer edges of the pit to cover and entirely encapsulate the pit and shall be sloped to provide surface drainage away from the pit.
(f) The drilling mud pit shall be buried not less than 4 feet below the original ground grade level.
History: 1996 AACS; 2015 MR 5, Eff. March 11, 2015.

R 324.408
Source: 1996 AACS.

R 324.409

Source: 1996 AACS.

R 324.410
Source: 1996 AACS.

R 324.411 Cementing.
Rule 411. Well casing shall be cemented by the pump and plug method or by a method approved by the supervisor and allowed to set undisturbed at static balance with the casing in tension, with surface pressure released, and with no backflow until the tail-in slurry reaches 500 psi compressive strength, but for not less than 12 hours; however, if backflow occurs, then the surface pressure shall not be released. The cement mixture shall be of a composition and volume approved by the supervisor or authorized representative of the supervisor. The casing shall be pressure-tested before the cement plugs are drilled or the casing perforated. The pressure at the top of the cement shall be equal to the expected operating pressure of the well; however, the test pressure shall not exceed the API specification for hydrostatic test pressure for new casing, API specification 5CT, specification for casing and tubing, July 2011, ninth edition, which is adopted by reference in these rules. Copies are available for inspection at the Lansing office of the office of oil, gas, and minerals of the department of environmental quality. Copies may be obtained from the Michigan Department of Environmental Quality, Office of Oil, Gas, and Minerals, P.O. Box 30256, Lansing, Michigan 48909, at a cost as of the time of adoption of these rules of $237.00 each, and from the American Petroleum Institute, 1220 L Street NW, Washington, DC 20005, at a cost as of the time of adoption of these rules of $237.00 each.
History: 1996 AACS; 2015 MR 5, Eff. March 11, 2015.

R 324.412
Source: 1996 AACS.

R 324.413 Drilling to strata beneath gas storage reservoirs.
Rule 413. Except when special orders have been adopted for specific reservoirs, areas, or practices, all of the following provisions about drilling to strata beneath gas storage reservoirs shall apply:
(a) The applicant shall send a copy of the entire drilling permit application and all revisions to the gas storage operator when the application and revisions are submitted to the supervisor. The gas storage operator shall have 10 business days to provide written comments to the supervisor.
(b) Drilling operations shall proceed through gas storage zones only when the gas storage reservoir pressure exerts a pressure gradient of not more than 0.50 psig per foot of true vertical depth to the top of the gas storage zone.
(c) Drilling rigs for wells drilled through gas storage reservoirs shall use rotary tools and shall have blowout prevention equipment pursuant to R 324.406. Complete operational checks of the well control appliances shall be made every 8 hours, with the well control system initially checked by pressure testing and checked again before drilling into the gas storage reservoir. The 8-hour checks shall be recorded in the daily driller's log.
(d) Surface casing and any other protective casing string required above the gas storage reservoir shall be new casing manufactured in compliance with the API specifications for casing and tubing as adopted by reference in R 324.411, the properties and design of which have been approved by the supervisor or authorized representative of the supervisor. Surface casing and any other protective casing string shall be designed to withstand the required test pressures as set forth in R 324.410(3). Surface casing shall be set pursuant to R 324.408. Surface casing shall be cemented to the surface and not disturbed for a period of 18 hours after completion of cementing. Cement shall attain a minimum compressive strength of 500 psi before disturbing the casing or resuming drilling. Surface casing, other protective casing strings, and blowout preventers shall be tested pursuant to R 324.406(4) before drilling out the cement, unless otherwise specified by the supervisor or authorized representative of the supervisor.
(e) Drilling fluid shall be circulated and conditioned at a point not less than 100 feet above the gas storage reservoir and shall be maintained with the following characteristics until the gas storage reservoir is cased off:
(i) Drilling fluid density shall be sufficient to provide a hydrostatic pressure of not less than 100 psig above the anticipated bottom hole pressure of the gas storage reservoir.
(ii) When drilling through the storage reservoir, the drilling fluid shall have a maximum fluid loss of 15 cubic centimeters or less as specified by the API standard procedure for testing drilling fluids, API RP 13B-1, entitled "Recommended Practice for Field Testing Water-Based Drilling Fluids," March, 2009, fourth edition, which is adopted by reference in these rules. Copies are available for inspection at the Lansing office of the office of oil, gas, and minerals of the department of environmental quality. Copies may be obtained from the Michigan Department of Environmental Quality, Office of Oil, Gas, and Minerals, P.O. Box 30256, Lansing, Michigan 48909, at a cost as of the time of adoption

of these rules of $165.00 each, and from the American Petroleum Institute, 1220 L Street NW, Washington, DC 20005, at a cost as of the time of adoption of these rules of $165.00 each.

(f) Hole size shall be large enough to allow the running of a separate intermediate casing, which shall be set through each gas storage reservoir. The casing shall be new and conform to the API specification and performance properties for casing, tubing, and drill pipe, API BULL 5C3, entitled "Bulletin on Formulas and Calculations for Casing, Tubing, Drill Pipe, and Line Pipe Properties, October 1, 1994," sixth edition, which is adopted by reference in these rules. Copies are available for inspection at the Lansing office of the office of oil, gas, and minerals of the department of environmental quality. Copies may be obtained from the Michigan Department of Environmental Quality, Office of Oil, Gas, and Minerals, P.O. Box 30256, Lansing, Michigan 48909, at a cost as of the time of adoption of these rules of $206.00 each, and from the American Petroleum Institute, 1220 L Street NW, Washington, DC 20005, at a cost as of the time of adoption of these rules of $206.00 each. The gas storage operator shall be allowed to review the intermediate casing design and cementing program before implementation. Intermediate casing shall be set in competent stratum approximately 100 feet below the base of the gas storage reservoir or set as required by the supervisor or authorized representative of the supervisor. Intermediate casing shall be designed for the maximum gas storage reservoir operating pressure using a minimum collapse design factor of 1.125, a minimum burst design factor of 1.25, and a minimum tension design safety factor of 1.6. The minimum hole size for a given size casing shall be pursuant to R 324.410(4). The hole shall be properly conditioned before running casing by circulating the drilling fluid at a rate equal to the drilling circulating rate and by utilizing a circulating time equivalent of not less than twice the hole displacement. Casing shall be equipped with a sufficient number of centralizers and scratchers to ensure good cement distribution and shall include centralizers above and below the gas storage reservoir. All centralizers shall conform to the API for casing centralizers, API specification 10D, entitled "Specification for Bow-Spring Casing Centralizers," March 6, 2002, sixth edition, which is adopted by reference in these rules. Copies are available for inspection at the Lansing office of the office of oil, gas, and minerals of the department of environmental quality. Copies may be obtained from the Michigan Department of Environmental Quality, Office of Oil, Gas, and Minerals, P.O. Box 30256, Lansing, Michigan 48909, at a cost as of the time of adoption of these rules of $89.00 each, and from the American Petroleum Institute, 1220 L Street NW, Washington, DC 20005, at a cost as of the time of adoption of these rules of $89.00 each. Casing shall include float equipment that will prevent movement after the cementing operation is completed. If conditions allow, casing shall be rotated or reciprocated slowly during cementing. The mill varnish shall be removed from the casing shoe to a point 100 feet above the storage reservoir. An acceptable spacer that is at least as dense as the drilling fluid shall precede the cement to aid in removing the drilling fluid. Cement mix water shall be tested before the cementing operation to ensure compatibility with the cement. The casing shall be cemented using a sufficient cement volume to circulate cement to the surface. Multistage cementing operations and external casing packers may be used only with the approval of the supervisor or authorized representative of the supervisor. Cemented casing shall not be disturbed for a period of 18 hours. Cement shall also attain a minimum compressive strength of 500 psi based on cement tables before disturbing the casing or resuming drilling. Absent backflow, the internal casing pressure shall be relieved after the cementing operation. Intermediate casing and the blowout preventers shall be tested to a pressure of not less than 1,500 psig at the surface or as otherwise specified by the supervisor or authorized representative of the supervisor, and the pressure shall be held for not less than 20 minutes before drilling out the cement.

(g) When additional intermediate casing is run inside the innermost storage zone casing, below the base of the Detroit river group, the intermediate casing string and cementing shall be pursuant to these rules and the orders and instructions issued by the supervisor.

(h) A centralized cement bond evaluation log or equivalent test approved by the supervisor shall be performed on the storage zone casing before running subsequent casing or plugging the hole, but not sooner than 48 hours after cementing the storage zone intermediate casing. A description of problems occurring while running or cementing casing shall be recorded in the daily driller's log. If unsatisfactory conditions are indicated, including unsatisfactory cement bonding, gas to the surface in the cellar area, or gas pressure on the surface or intermediate casing string annulus, and additional testing does not provide sufficient proof the unsatisfactory condition does not exist, then the permittee shall initiate remedial action before additional casing is installed.

(i) Wellhead equipment and assemblies shall conform to the API specification for wellhead equipment, and shall include slip and seal assemblies for all casings, unless an exception is approved by the supervisor or authorized representative of the supervisor. The API specification for wellhead equipment is specification 6A, entitled "Specification for Wellhead and Christmas Tree Equipment," October, 2010, twentieth edition, which is adopted by reference in these rules. Copies are available for inspection at the Lansing office of the office of oil, gas, and minerals of the department of environmental quality. Copies may be obtained from the Michigan Department of Environmental Quality, Office of Oil, Gas, and Minerals, P.O. Box 30256, Lansing, Michigan 48909, at a cost as of the time of adoption of these rules of $260.00 each, and from the American Petroleum Institute, 1220 L Street NW, Washington, DC 20005, at a cost as of the

time of adoption of these rules of $260.00 each. The wellhead shall be assembled to allow the monitoring of the pressure of each annulus at the surface.
(j) The permittee shall notify the gas storage operator before moving personnel or equipment, or both, onto the well location to ensure all of the following:
(i) That the proposed well location does not endanger gas storage facilities or storage operations.
(ii) That the movement of drilling rigs, related trucks, and equipment does not endanger gas storage facilities or storage operations.
(iii) That the gas storage operator is allowed to witness drilling operations that impact the gas storage reservoir.
History: 1996 AACS; 2015 MR 5, Eff. March 11, 2015.

R 324.414
Source: 1996 AACS.

R 324.415
Source: 1996 AACS.

R 324.416
Source: 2001 AACS.

R 324.417
Source: 1996 AACS.

R 324.418 Filing of well records.
Rule 418. A permittee of a well who drills a well shall file all of the following records with the supervisor:
(a) Within 60 days after drilling completion, a complete written geologic description log or record of the well, certified by the permittee, on forms prescribed by the supervisor, including all of the following information:
(i) Elevations pursuant to R 324.415.
(ii) Depth to, and thickness of, water-bearing sands and gravels in the glacial drift as determined by a geologist, including fill-up and volumes of the water, if available.
(iii) The measured and true vertical depth to geologic strata penetrated, and accurate and complete lithologic descriptions, including color, hardness, and the character of the rock as determined by a geologist.
(iv) A record of all shows of oil or gas, or both, encountered.
(v) A record of all lost circulation zones encountered.
(vi) A record of all hole sizes, casings, and liners used, including the size, weight, grade, amount, and depth set for each casing string.
(vii) The amount of cement used and the calculated elevation of the top of the cement, unless the supervisor or authorized representative of the supervisor requests the elevation to be measured.
(viii) Data on all drill stem tests. The minimum education and experience requirements for a geologist to determine the information required in this subrule are graduation from a university or college that has an accredited 4-year curriculum in a geological science, receipt of a 4-year degree in a geological science, and 2 years of practical experience providing geological services, including consultation, investigation, evaluation, planning, or responsible supervision of geological activities requiring the application of geologic principles and techniques.
(b) Within 60 days after well completion operations, data on all perforating, acidizing, fracturing, shooting, and testing, except that information on chemical additives used in a high volume hydraulic fracturing operation shall be submitted as required under R 324.1406.
(c) Within 60 days of plugging the well, all of the following information:
(i) Accurate and complete descriptions of cores.
(ii) Data on all bridge plugs set, make and type of plug, depth set, whether left in place or removed, and details of plug-back operations below the bridge plug.
(iii) The amount of casing stripped from the well.
History: 1996 AACS; 2015 MR 5, Eff. March 11, 2015.

R 324.419
Source: 1996 AACS.

R 324.420
Source: 1996 AACS.

R 324.421
Source: 1996 AACS.

R 324.422
Source: 1996 AACS.

PART 5. COMPLETION AND OPERATION

R 324.501
Source: 2002 AACS.

R 324.502
Source: 1996 AACS.

R 324.503 Well completion operations.
Rule 503. (1) A permittee of a well shall use proper well control measures to avoid an uncontrolled flowing of the well. All fluids from well completion operations, including flowback fluid, acid, load water, chemicals, and associated hydrocarbons, shall be produced or swabbed back to approved containers. A permittee of a well shall not use earthen pits or reservoirs to contain fluids produced from the well.
(2) A permittee shall notify the supervisor or authorized representative of the supervisor when a well completion operation starts.
History: 1996 AACS; 2015 MR 5, Eff. March 11, 2015.

R 324.504
Source: 2002 AACS.

R 324.505
Source: 1996 AACS.

R 324.506
Source: 1996 AACS.

R 324.507
Source: 1996 AACS.

R 324.508
Source: 1996 AACS.

R 324.509
Source: 1996 AACS.

R 324.510
Source: 1996 AACS.

R 324.511 Change of well status.
Rule 511. (1) A permittee of a well who desires to change the status of a well by an oil and gas operation, including temporary abandonment or high volume hydraulic fracturing, except as allowed by R 324.704 and additional acid or other stimulation treatment, shall file an application for change of well status with the supervisor. The application shall set forth, in detail, the kind of oil and gas operation to be accomplished and the plan for protecting all oil, gas, brine, or fresh water strata the well has penetrated. In addition, an application to change the status of a well by utilizing high volume hydraulic fracturing shall include the information specified in rule 201(2)(c) of these rules. A permittee shall not begin the oil and gas operation until he or she has received approval from the supervisor or authorized representative of the supervisor and provided notification to the supervisor or authorized representative of the supervisor of the date the oil and gas operation will commence.
(2) A permittee of a well who changes the status of a well shall file, with the supervisor, within 60 days, a complete change of well status record on forms prescribed by the supervisor, except that a record shall not be filed when the change of well status operation is for temporary abandonment purposes.

History: 1996 AACS; 2002 AACS; 2015 MR 5, Eff. March 11, 2015.

PART 6. PRODUCTION AND PRORATION

R 324.601
Source: 1996 AACS.

R 324.602
Source: 1996 AACS.

R 324.603
Source: 1996 AACS.

R 324.604
Source: 1996 AACS.

R 324.605
Source: 1996 AACS.

R 324.606
Source: 1996 AACS.

R 324.607
Source: 1996 AACS.

R 324.608
Source: 1996 AACS.

R 324.609
Source: 1996 AACS.

R 324.610
Source: 1996 AACS.

R 324.611
Source: 1996 AACS.

R 324.612
Source: 1996 AACS.

R 324.613 Production from directionally drilled wells.
Rule 613. (1) An allowable production rate shall not be assigned or production permitted from a directionally drilled well until a certified well survey has been furnished by the permittee of a well to the supervisor. A directionally drilled well with a producing interval that is contrary to the established boundary setback of the drilling unit or pooled or communitized area shall be limited or restricted in the same manner as provided for regularly drilled wells located contrary to the boundary setback of the drilling unit or pooled or communitized area.
(2) The production from directionally drilled wells that can be produced contrary to the established boundary setback of the drilling unit or pooled or communitized area shall be limited or restricted in the same manner pursuant to R 324.301(4)(a) for regularly drilled wells located contrary to the applicable boundary setback of the drilling unit or pooled or communitized area. A permittee of a well shall not conduct production testing from a directionally drilled well until a certified well survey has been furnished to, and approved by, the supervisor or authorized representative of the supervisor pursuant to R 324.421. Injection wells utilized for gas storage are exempt from this subrule.
History: 1996 AACS; 2015 MR 5, Eff. March 11, 2015.

PART 7. DISPOSAL OF OIL OR GAS FIELD WASTE, OR BOTH

R 324.701
Source: 1996 AACS.

R 324.702
Source: 1996 AACS.

R 324.703
Source: 1996 AACS.

R 324.704
Source: 1996 AACS.

R 324.705 Disposition of brine.
Rule 705. (1) A permittee of a well is responsible for the proper disposal of all brines produced in association with oil or gas production, or both, or brines accumulated in drilling mud pits or tanks and shall ensure that waste, as defined in section 61501(p) of the act, will not occur. A permittee may convey or transfer brines for other purposes if the brines are in compliance with the conditions provided in subrule (3) of this rule. A permittee shall be required to maintain records on the disposition of all brines pursuant to subrule (4) of this rule, and a permittee shall not have continuing liability relative to the transport or application of the brines after the brines are properly conveyed or transferred.
(2) Upon the effective date of these rules, a permittee of a well shall not use brines produced in association with drilling for oil and gas, or both, and accumulated in drilling mud pits for ice or dust control purposes.
(3) Twelve months after the effective date of these rules, a permittee shall dispose of all brines as provided in R 324.703 or shall use the brines in a manner approved by the supervisor; however, some brines may be conveyed or transferred and used for ice and dust control and road stabilization if all of the following conditions are satisfied:
(a) Brines shall not be used for ice and dust control and road stabilization if the brines are obtained from wells containing more than 20 ppm hydrogen sulfide in the gas stream, unless it can be shown that there is less than a 500-ppm-hydrogen sulfide concentration present in the brine.
(b) The brines shall contain a 20,000-milligrams-per-liter or more concentration of calcium.
(c) The brines shall contain less than a 1,000-micrograms-per-liter concentration of each of the following aromatic hydrocarbons:
(i) Benzene.
(ii) Ethylbenzene.
(iii) Toluene.
(iv) Xylene.
(d) Only brines that have been approved by the supervisor or authorized representative of the supervisor may be exempt from the disposal requirements of R 324.703. For a permittee to obtain approval to exempt brine from the disposal requirements of R 324.703, all of the following conditions shall be satisfied:
(i) The brine shall be tested annually within 90 days of January 1 of each year by the person seeking authorization to utilize the brine for other purposes. The brine shall be tested using any of the following procedures:
(A) Method 200.7 ICP-AES, entitled "Method for Trace Element Analysis of Water and Wastes, Methods for Chemical Analysis of Water and Wastes," March 1983 edition.
(B) Method 6010A, entitled "Inductively Coupled Plasma, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," 1984 edition 3.
(C) Method 602, entitled "Purgeable Aromatics, Guidelines Establishing Test Procedures for the Analysis of Pollutants," 40 C.F.R. part 136, appendix A, revised July 1990.
(D) Method 8020A, "Aromatic Volatile Organics by Gas Chromatography, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," 1984 edition 3.
(E) Method 8240A, entitled "Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry: Packed Column Technique, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," 1984 edition 3.
(F) Method 8260A, entitled "Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry: Capillary Column Technique," 1984 edition 3.
(G) Method 325.3, entitled "Chloride (Colorimetric, Automated Ferricyanide), Guidelines Establishing Test Procedures for the Analysis of Pollutants," 40 C.F.R. part 136, appendix A, revised July 1990.
(H) Method 4500-CLE, entitled "Chloride, Methods for the Determination of Organic Compounds in Drinking Water" and supplement I, December 1988 and July 1990 editions.
The testing methods are adopted by reference in these rules and copies are available for inspection at the Lansing office of the office of oil, gas, and minerals of the department of environmental quality. Copies may be obtained without charge from the Michigan Department of Environmental Quality, Office of Oil, Gas, and Minerals, P.O. Box 30256, Lansing,

Michigan 48909, or from the United States Environmental Protection Agency, Office of Research and Development, 26 West Martin Luther King Boulevard, Cincinnati, Ohio 45268.
(ii) The sample of brine used for analysis shall be obtained from the point of loading of the storage tank where the brine is first separated from the production stream.
(iii) A chemical analysis of each brine source showing the concentrations of all of the following shall be submitted to the supervisor or authorized representative of the supervisor within 30 days of the completion of the analysis:
(A) Chloride.
(B) Hydrogen sulfide.
(C) Calcium.
(D) Benzene.
(E) Ethylbenzene.
(F) Toluene.
(G) Xylene.
(iv) The chemical analysis shall include all of the following information:
(A) The well name.
(B) Permit number.
(C) Permittee.
(D) Location of the individual well.
(E) If the brine is obtained from a tank battery or central production facility, the name, number, permittee, and location of the tank battery or central production facility.
(4) A permittee of a well shall maintain records for 2 years on the disposition of all brines produced in association with oil or gas production, or both. The records shall indicate dates, volumes, recipient, transporter, destination, and proof of delivery. If the person authorized to utilize the brine for other purposes receives the brine at an unattended loading site, then the person shall provide the permittee with a signed record describing the date, volume, time, destination, and proof of delivery. A permittee of a well shall make the records available for inspection by the supervisor or authorized representative of the supervisor at all times. A permittee of a well shall protect the records from damage or destruction due to preventable cause.
(5) A permittee of a well shall ensure that brine that is in compliance with the conditions listed in subrule (3) of this rule is also in compliance with all applicable state and federal laws and regulations.
History: 1996 AACS; 2015 MR 5, Eff. March 11, 2015.

PART 8. INJECTION WELLS

R 324.801 Construction and operation of injection wells.
Rule 801. (1) A permittee of a well shall ensure that the injection of fluid into a well is through adequate tubing and packer. During injection operations, the tubing to casing annulus shall be filled with a noncorrosive liquid. Injection wells utilized for gas storage are exempt from this subrule.
(2) A permittee of a well shall ensure that surface access to all casing annuli is provided.
(3) A permittee of a well shall ensure that an injection well is constructed and operated so that the injection of fluids is confined to strata approved by the supervisor or authorized representative of the supervisor.
(4) A permittee of a well shall ensure that construction, operation, maintenance, conversion, and plugging and abandonment of the well will not allow the movement of fluid containing any contaminant into an underground source of drinking water.
History: 1996 AACS; 2015 MR 5, Eff. March 11, 2015.

R 324.802
Source: 1996 AACS.

R 324.803
Source: 1996 AACS.

R 324.804
Source: 1996 AACS.

R 324.805
Source: 1996 AACS.

R 324.806
Source: 1996 AACS.

R 324.807
Source: 1996 AACS.

R 324.808
Source: 1996 AACS.

PART 9. PLUGGING

R 324.901
Source: 1996 AACS.

R 324.902
Source: 1996 AACS.

R 324.903
Source: 1996 AACS.

R 324.904
Source: 1996 AACS.

PART 10. WELL SITES AND SURFACE FACILITIES; PREVENTION OF FIRES, POLLUTION, AND DANGER TO, OR DESTRUCTION OF, PROPERTY OR LIFE

R 324.1001
Source: 1996 AACS.

R 324.1002
Source: 1996 AACS.

R 324.1003
Source: 1996 AACS.

R 324.1004
Source: 1996 AACS.

R 324.1005
Source: 1996 AACS.

R 324.1006
Source: 1996 AACS.

R 324.1007
Source: 1996 AACS.

R 324.1008
Source: 2001 AACS.

R 324.1009
Source: 1996 AACS.

R 324.1010
Source: 1996 AACS.

R 324.1011
Source: 1996 AACS.

R 324.1008
Source: 2001 AACS.

R 324.1012
Source: 1996 AACS.

R 324.1014
Source: 2002 AACS.

R 324.1015 Nuisance noise; "decibel," "decibels on the a-weighted network," "noise-sensitive area," and "nuisance noise" defined.
Rule 1015. (1) A person shall not cause a nuisance noise in the production, handling, or use of oil, gas, or brine or in the handling of any product associated with the production or use of oil, gas, or brine.
(2) If the supervisor or authorized representative of the supervisor receives 1 or more complaints of noise heard by the complainant at noise-sensitive areas that is attributed to a surface facility, then the supervisor may require the permittee to collect decibel readings to determine the sound levels at the noise-sensitive areas and at a distance of 1,320 feet from the facility. If the sound level of the facility is more than 45 decibels on the a-weighted network at a distance of 1,320 feet from the facility, then the supervisor or authorized representative of the supervisor may find that a nuisance noise exists after considering all applicable information, including the distance between the surface facility and the noise-sensitive areas, the sound levels at the noise-sensitive areas, and sound attributable to sources other than the surface facility. The supervisor or authorized representative of the supervisor may require appropriate noise control measures to reduce the decibel levels. If noise control measures are required, then the permittee shall submit, to the supervisor or authorized representative of the supervisor, for approval, an abatement plan and schedule for implementation within 30 days of a determination by the supervisor or authorized representative of the supervisor that noise control measures are necessary.
(3) As used in this rule:
(a) "Decibel" means a unit of sound level on a logarithmic scale measured relative to the threshold of audible sound by the human ear in compliance with the ANSI standard 1.1, entitled "Acoustical Terminology," 1994 edition, which is adopted by reference in these rules. Copies of the standard are available for inspection at the Lansing office of the office of oil, gas, and minerals of the department of environmental quality. Copies may be obtained from the Michigan Department of Environmental Quality, Office of Oil, Gas, and Minerals, P.O. Box 30256, Lansing, Michigan 48909, at a cost as of the time of adoption of these rules of $100.00 each, and from the American National Standards Institute, 11 West 42nd Street, New York, NY 10036, at a cost as of the time of adoption of these rules of $100.00 each.
(b) "Decibels on the a-weighted network" means decibels measured on the a-weighted network of a sound level meter, as specified in the ANSI standard 1.4, entitled "Specifications for Sound Level Meters," 1983 edition, which is adopted by reference in these rules. Copies of the standard are available for inspection at the Lansing office of the office of oil, gas, and minerals of the department of environmental quality. Copies may be obtained from the Michigan Department of Environmental Quality, Office of Oil, Gas, and Minerals, P.O. Box 30256, Lansing, Michigan 48909, at a cost as of the time of adoption of these rules of $70.00 each, and from the American National Standards Institute, 11 West 42nd Street, New York, NY 10036, at a cost as of the time of adoption of these rules of $70.00 each.
(c) "Noise-sensitive area" means a residential dwelling, place of worship, school, or a hospital and also means an existing site that is maintained for public recreation for which quiet is a primary consideration in the use of the site.
(d) "Nuisance noise" means any noise from a well or its associated surface facilities that causes injurious effects to human health or safety or the unreasonable interference with the comfortable enjoyment of life or property.
History: 1996 AACS; 2015 MR 5, Eff. March 11, 2015.

R 324.1016
Source: 1996 AACS.

PART 11. HYDROGEN SULFIDE MANAGEMENT

R 324.1101
Source: 1996 AACS.

R 324.1102
Source: 1996 AACS.

R 324.1103 Metallic component standards.
Rule 1103. A permittee of a well shall ensure that metallic components of the well, flow line, and associated surface facilities installed during the course of drilling, completing, testing, producing, repair, workover, or servicing operations after September 2, 1987, where applicable, are in compliance with or exceed the standards for use in a hydrogen sulfide environment set forth in the NACE standard MR0175-2000, 2000 edition, entitled "Sulfide Stress Cracking Resistant Metallic Material for Oil Field Equipment," which is adopted by reference in these rules. Copies may be inspected at the Lansing office or field offices of the office of oil, gas, and minerals of the department of environmental quality. Copies may be obtained from the Michigan Department of Environmental Quality, Office of Oil, Gas, and Minerals, P.O. Box 30256, Lansing, Michigan 48909, at a cost as of the time of adoption of these rules of $50.00 each, and from the National Association of Corrosion Engineers, P.O. Box 218340, Houston, Texas 77218, at a cost as of the time of adoption of these rules of $50.00 each.
History: 1996 AACS; 2001 AACS; 2015 MR 5, Eff. March 11, 2015.

R 324.1104
Source: 1996 AACS.

R 324.1105
Source: 2001 AACS.

R 324.1106
Source: 1996 AACS.

R 324.1107
Source: 2002 AACS.

R 324.1108
Source: 1996 AACS.

R 324.1109
Source: 1996 AACS.

R 324.1110
Source: 2001 AACS.

R 324.1111
Source: 1996 AACS.

R 324.1112
Source: 1996 AACS.

R 324.1113
Source: 2001 AACS.

R 324.1114
Source: 1996 AACS.

R 324.1115
Source: 1996 AACS.

R 324.1116
Source: 1996 AACS.

R 324.1117
Source: 1996 AACS.

R 324.1118
Source: 1996 AACS.

R 324.1119
Source: 1996 AACS.

R 324.1120
Source: 1996 AACS.

R 324.1121
Source: 1996 AACS.

R 324.1122
Source: 2002 AACS.

R 324.1123
Source: 2002 AACS.

R 324.1124
Source: 1996 AACS.

R 324.1125
Source: 2001 AACS.

R 324.1126
Source: 1996 AACS.

R 324.1127
Source: 1996 AACS.

R 324.1128
Source: 1996 AACS.

R 324.1129
Source: 2001 AACS.

R 324.1130
Source: 2001 AACS.

PART 12. HEARINGS

R 324.1201
Source: 1996 AACS.

R 324.1202 Petition for hearing; contents.
Rule 1202. (1) A proper written petition for a hearing, except for the material filed pursuant to subdivisions (e) and (f) of this subrule, shall be filed on 8 1/2 by 11-inch paper and shall contain at least all of the following information:
(a) The name and address of petitioner.
(b) A specific statement of the matters asserted or relief sought indicating the rule, order, or section of the act applicable to the petition.
(c) Property descriptions, locations, sections, townships, and counties relating to the matter to be heard.
(d) The names and last known addresses of the last record owners, lessees, lessors, or other parties of record in the register of deeds office who own interests in the lands that are the subject of the petition.
(e) A map of the area to be affected and of the contiguous property. Lease ownership and well locations within 1,320 feet of the area to be affected shall be identified.
(f) Other maps, plats, and exhibits that may be useful in considering the matter to be heard.
(g) The name and address of the newspaper circulated in the county or counties where the affected lands are located.
(h) A copy of a permit application and attachments pertinent to the matters asserted in the petition.
(i) The name, address, and telephone number of the representative or representatives of the petitioner to whom inquiries can be made.

(2) All of the following additional information shall be filed with the petition when a spacing or proration order is to be considered:
(a) The size, shape, and orientation of the proposed drilling unit.
(b) The well spacing pattern to be proposed.
(c) The surface geographic area to be included in the spacing order, and the geologic formation or formations to be spaced or prorated.
(d) Well production, testing history, and other applicable reservoir and geological data.
(e) Proposed daily well allowables, if applicable.
(3) A petition to establish secondary recovery operations pursuant to R 324.612 shall also include all of the following information:
(a) Applicable seismic lines, profiles, and interpretation showing seismic outlines or boundaries of reservoir structure and the geologic structure and area to be impacted by the operations.
(b) Appropriate geologic information, such as structural cross sections and productive areas, thickness isopach, and other essential maps.
(c) Applicable reservoir engineering data, such as the following:
(i) Pressure versus time.
(ii) Pressure versus oil production.
(iii) Reservoir rock and fluid properties.
(iv) Primary production.
(v) An estimated forecast of oil recoveries.
(vi) Estimated economics of secondary recovery project.
(d) A plan that shows the locations of existing production wells, proposed production wells, and proposed injection wells and a facilities plan that includes schematics that show the locations of existing and proposed flow lines and wells and associated surface facilities.
(e) If groundwater is to be injected, a hydrogeologic investigation report of the source aquifer.
(4) The supervisor may return a petition that is not in conformance with these rules and may include a list of the deficiencies of the petition.
(5) All of the following additional information shall be filed with the petition when statutory pooling is to be considered:
(a) The ownership of oil and gas interests within the drilling unit and a specific description of the nature and extent of the interests sought to be pooled.
(b) Sworn statements that indicate, in detail, what action the petitioner has taken to obtain a voluntary unit.
(c) Whether or not the petitioner desires to drill or operate the unit, or both, and, if not, the name of the party nominated as operator and the recommendation of the petitioner as to the arrangements that are just and equitable to all owners within the drilling unit.
(d) The estimated costs of drilling, completing, and equipping the well, on a form provided by the supervisor, and additional compensation proposed for the risk associated with the drilling and equipping of the well.
History: 1996 AACS; 2015 MR 5, Eff. March 11, 2015.

R 324.1203
Source: 1996 AACS.

R 324.1204 Notice of hearing; service; answer.
Rule 1204. (1) The supervisor shall prepare and furnish the notice of hearing to the petitioner, together with instructions for publication and service of the notice. Upon receipt the petitioner shall serve copies of the notice of hearing on the last known addresses of the last record owners, lessees, lessors, or other parties of record in the register of deeds office or assessor's records, if appropriate, who own interests in the lands that are the subject matter of the proposed action, unless otherwise provided in these rules.
(2) If directed by the supervisor, the petitioner shall also serve copies of the notice of hearing at the last known addresses of the last record owners, lessees, lessors, or other parties of record in the register of deeds office who own interests in all or part of the quarter-quarter sections of land directly and diagonally adjacent to the lands or areas that are the subject matter of the proposed action.
(3) The notice of hearing shall be published by the petitioner in an oil and gas industry publication circulated in this state and in a newspaper of general circulation in the county or counties involved with the matter to be heard. Publication shall occur not less than 21 days before the date of the hearing. Affidavits of proof of publication shall be filed with the supervisor before the date of the hearing.

(4) The notices of hearing shall be mailed not less than 21 days before the date of the hearing. Affidavits of proof of mailing by first-class mail or personal service shall be filed with the supervisor before the date of the hearing. An affidavit of proof of mailing shall state that the notice was deposited in the United States mail not less than 21 days before the hearing date, first-class postage prepaid, addressed to each person so served at his or her record address as set forth in the petition pursuant to R 324.1202. Each person so served and his or her address of record shall be specifically identified in the affidavit. The supervisor may require service by certified mail, return receipt requested.
(5) If a hearing is initiated by the supervisor, or if the scope of a hearing requested by a petitioner is enlarged at the initiative of the supervisor, then the supervisor shall publish the notice of hearing and may give additional notification of the hearing by United States mail or personal service.
(6) An interested person shall not be permitted to participate as a party in a hearing conducted pursuant to a petition unless the person files an answer in a timely manner with the supervisor and serves the answer to the petition upon the petitioner. The answer shall be in writing and shall set forth the interested person's positions with regard to the representations made or relief sought in the petition. An interested person is responsible for requesting a copy of the petition from the petitioner at the address set forth in the notice of hearing. The petitioner shall mail or otherwise deliver a copy of the petition and attachments to the interested person within 3 days after receipt of a written request. Failure of the petitioner to mail or otherwise deliver a copy of the petition to an interested person in a timely manner relieves the interested person of the obligation to file an answer and the interested person shall not be precluded from presenting evidence or cross-examining witnesses. An interested person may mail or otherwise deliver his or her answer to the supervisor and the petitioner. To be considered timely an answer must be received by the supervisor and the petitioner not fewer than 5 days before the date set for the hearing. Failure to file and serve an answer in a timely manner precludes an interested person from presenting evidence at the hearing or cross-examining witnesses. However, an interested person who does not file an answer in a timely manner may make a nonevidentiary statement at the hearing.
(7) The notice of hearing shall contain the following statement:
You can obtain a copy of the written petition by requesting one in writing from the petitioner at_____. Take note that if you wish to participate as a party in the hearing by presenting evidence or cross-examining witnesses, you shall prepare and mail or otherwise deliver to the petitioner and supervisor, not less than 5 days before the hearing date, an answer to the petition in the manner set forth in R 324.1204(6). Proof of mailing or delivering the answer shall be filed with the supervisor on or before the date of hearing. The answer shall state with specificity the interested person's position with regard to the petition. Failure to prepare and serve an answer in a timely manner shall preclude you from presenting evidence or cross-examining witnesses at the hearing. If an answer to the petition is not filed, the supervisor may elect to consider the petition and enter an order without oral hearing.
(8) Upon a showing that service of notice cannot reasonably be made as provided by this rule, the supervisor may authorize service of the notice of hearing to be made in another manner reasonably calculated to give the interested parties actual notice of the proceeding and an opportunity to be heard. A request for this authorization shall be made by verified motion. The motion shall set forth sufficient facts to establish that service pursuant to subrules (1) to (7) of this rule cannot reasonably be made and shall suggest an alternative method of service.
History: 1996 AACS; 2015 MR 5, Eff. March 11, 2015.

R 324.1205
Source: 1996 AACS.

R 324.1206 Final decision or order.
Rule 1206. (1) The supervisor shall issue a final decision or order as a result of a hearing held under R 324.1205 or as a result of the procedure pursuant to R 324.1205(1)(c) after giving due consideration to all of the following:
(a) The record.
(b) The supervisor's experience, technical competence, and specialized knowledge.
(c) The proposal for decision, if one is issued, and exceptions to the proposal for decision, replies to exceptions, and, if permitted by the supervisor, oral arguments and briefs.
(d) The advice or recommendations of the representative of the supervisor when required or appropriate.
(e) The stipulations or agreements that the contesting parties have placed on the record at a hearing or submitted in writing to the supervisor or the hearings officer.
(f) The act and rules.
(2) The final written decision or order of the supervisor shall be furnished to the petitioner. The petitioner shall serve copies, by first-class mail, to all persons who were mailed a notice of the hearing, who filed an appearance at the hearing, or who otherwise requested a copy of the final written decision.

(3) When a hearing is scheduled at the initiative of the supervisor, the supervisor shall serve copies of the final written decision or order, by first-class mail, to all persons who filed an answer, who filed an appearance at the hearing, or who otherwise requested a copy.
(4) After the hearing on a petition for an order to pool and after thorough consideration of the evidence and testimony submitted, the supervisor shall either rule that pooling is not necessary to prevent waste or shall enter an order pooling the separately owned tracts and interests within the drilling unit. The pooling order shall authorize 1 of the owners within the affected unit to drill and operate the well within the affected unit and provide that the well shall be commenced within 90 days if drilling of the well has not already commenced, unless otherwise specified in the pooling order. The pooling order is null and void as to all parties and interests with respect to any well that has not commenced within 90 days after the date of the order. The order shall set forth the terms and conditions under which each of the owners may share in the working interest ownership of the well drilled or to be drilled on the pooled unit and for the sharing of any production from the well. The order shall provide for conditions under which each mineral or working interest owner who has not voluntarily agreed to pool all of the owner's mineral or working interest in the pooled unit may share in the working interest share of production or be compensated for the owner's working interest within the pooled unit according to either of the following provisions:
(a) Pay to the party authorized to drill, or who has drilled, the well that owner's proportionate share of the actual cost of drilling, completing, equipping, and operating the well in the pooled unit that the owner elects to participate in, or give bond for the payment of the share of the costs that have been, or are subsequently, actually incurred, whether the well is drilled as a producer or a dry hole.
(b) As to each well that the owner does not elect to participate in as provided in subdivision (a) of this subrule, if the well has been, or is subsequently, completed as a producer, authorize the operator of the well to take out of the nonparticipatory interest's share of production from the well the party's share of the cost of drilling, completing, equipping, and operating the well, plus an additional percentage of the costs that the supervisor considers appropriate compensation for the risks associated with drilling a dry hole and the mechanical and engineering risks associated with the completion and equipping of each well.
(5) Each nonparticipating owner who has not elected to participate in the drilling of any well by agreeing to pay the owner's working interest share of the costs shall make an election, within 10 days of receipt by the owner of the supervisor's certified mail copy of the order, as to which alternative in subrule (4)(a) or (b) of this rule the owner will select. If the nonparticipating party does not notify the supervisor in writing within 10 days of the owner's election as to any well proposed for the pooled unit, then the owner shall be considered to have elected the alternative in subrule (4)(b) of this rule. For the type of statutory pooling order specified in this rule, the owner of an unleased mineral interest shall be treated as a working interest owner to the extent of 100% of the interest owned in the pooled unit. Each nonparticipating owner shall be considered to be subject to a 1/8 royalty interest, which shall be free of any withholding for payment of any costs of drilling, completing, equipping, or operating the well to be drilled. All operations, including, the commencement, drilling, completing, equipping, or operation of a well, upon a portion of a drilling unit for which pooling has been ordered shall be considered for all purposes to be the conducting of operations upon each separately owned tract in the drilling unit. The portion of the production allocated to a separately owned tract or separately owned interest included in a drilling unit shall, when produced, be considered for all purposes to have been actually produced from the separately owned tract or tracts by a well drilled in the drilling unit.
History: 1996 AACS; 2015 MR 5, Eff. March 11, 2015.

R 324.1207
Source: 1996 AACS.

R 324.1208
Source: 1996 AACS.

R 324.1209
Source: 1996 AACS.

R 324.1210
Source: 1996 AACS.

R 324.1211
Source: 1996 AACS.

R 324.1212

Source: 1996 AACS.

PART 13. ENFORCEMENT

R 324.1301
Source: 2002 AACS.

R 324.1401 Definitions.
Rule 1401. As used in these rules:
(a) “Adverse resource impact,” “assessment tool,” “cold-transitional river system,” “cool river system,” “site-specific review,” “warm river system,” “withdrawal,” “zone A withdrawal,” “zone B withdrawal,” “zone C withdrawal,” and “zone D withdrawal,” have the same meanings as in section 32701 of the act.
(b) “Available water source” means a reasonably identifiable fresh water well used for human consumption for which the water well owner has given written consent for sampling and testing and to having the sample data made a part of the department’s public records.
(c) “Chemical Abstracts Service (CAS) Number” means the unique identification number assigned to a chemical by the division of the American Chemical Society that is the globally recognized authority for information on chemical substances.
(d) “Chemical additive” means a product composed of 1 or more chemical constituents that is intentionally added to a primary carrier fluid to enhance the characteristics of hydraulic fracturing fluid.
(e) “Chemical constituent” means a discrete chemical with its own specific name or identity, such as a CAS number, that is contained in a chemical additive.
(f) “Chemical family” means a group of elements or compounds that have similar physical and chemical characteristics and have a common general name.
(g) “Flowback fluid” means hydraulic fracturing fluid and brine recovered from a well after completion of a hydraulic fracturing operation and before the conclusion of test production under R 324.606.
(h) “High volume hydraulic fracturing" means a hydraulic fracturing well completion operation that is intended to use a total volume of more than 100,000 gallons of primary carrier fluid. If the primary carrier fluid consists of a base fluid with 2 or more components, the volume shall be calculated by adding the volumes of the components. If 1 or more of the components is a gas at prevailing temperatures and pressures, the volume of that component or components shall be calculated in the liquid phase.
(i) “Hydraulic fracturing” means a well completion operation that involves pumping fluid and proppants into the target formation under pressure to create or propagate artificial fractures, or enhance natural fractures, for the purpose of improving the deliverability and production of hydrocarbons. Hydraulic fracturing does not include other stimulation completion techniques such as treatments that do not use proppants.
(j) “Hydraulic fracturing fluid” means fluid at a well site that is prepared for injection into a well to achieve a hydraulic fracturing operation, including primary carrier fluid and additives.
(k) "Large volume water withdrawal" means a water withdrawal intended to produce a cumulative total of over 100,000 gallons of water per day when averaged over a consecutive 30-day period.
(l) “Primary carrier fluid” means the base fluid, such as water, into which chemical additives are mixed to form the hydraulic fracturing fluid.
(m) “Proppant” means sand or any natural or man-made material that is used in a hydraulic fracturing completion to prop open the artificially created or enhanced fractures once the treatment is completed.
(n) “Trade secret” has the same meaning as defined in the uniform trade secrets act, 1998 PA 448, MCL 445.1901 to 445.1910.
History: 2015 MR 5, Eff. March 11, 2015.

R 324.1402 Permitting of high volume hydraulic fracturing for oil and gas wells.
Rule 1402. (1) In addition to the requirements in R 324.201, a person applying for a permit to drill and operate shall provide a statement as to whether high volume hydraulic fracturing is expected to be utilized in completion of the proposed well.
(2) A permittee of a well shall not begin a large volume water withdrawal for a high volume hydraulic fracturing operation without approval of the supervisor or authorized representative of the supervisor. A permit applicant or permittee shall make a written request for approval to conduct a large volume water withdrawal and shall file the request with the supervisor at least 30 days before the permit applicant or permittee intends to begin the withdrawal. The permittee may file the request with the application for a permit to drill and operate a well or may provide the request

separately to the supervisor or authorized representative of the supervisor. The request shall include all of the following information:
(a) A water withdrawal evaluation utilizing the assessment tool accessed at http://www.miwwat.org/ or by a means approved by the supervisor under the conditions described in subrule (6) of this rule.
(b) Information on the proposed withdrawal including all of the following:
(i) Proposed total volume of water needed for hydraulic fracturing well completion operations.
(ii) Proposed number of water withdrawal wells.
(iii) Aquifer type (drift or bedrock).
(iv) Proposed depth of water withdrawal wells, in feet below ground surface.
(v) Proposed pumping rate and pumping schedule of each water withdrawal well.
(vi) Available well logs of all recorded fresh water wells and reasonably identifiable fresh water wells within 1,320 feet of water withdrawal location.
(c) A supplemental plat of the well site showing all of the following:
(i) Proposed location of water withdrawal wells (latitude/longitude).
(ii) Location of all recorded fresh water wells and reasonably identifiable fresh water wells within 1,320 feet of water withdrawal location or locations.
(iii) Proposed fresh water pit impoundment, containment, location, and dimensions.
(d) A contingency plan, if deemed necessary, to prevent or mitigate potential loss of water availability in the fresh water wells identified under subdivision (b)(vi) of this subrule.
(3) An application for change of well status for which a large volume water withdrawal is expected to be utilized for high volume hydraulic fracturing shall include the information required under subrule (1) of this rule.
(4) If the assessment tool designates the proposed withdrawal as a zone A withdrawal, or a zone B withdrawal in a cool river system or a warm river system, the supervisor shall approve the withdrawal.
(5) If the assessment tool designates the proposed withdrawal as a zone B withdrawal in a cold-transitional river system, or a zone C or zone D withdrawal, the permit applicant or permittee may submit to the supervisor a request for a site-specific review. All of the following apply:
(i) If the site-specific review determines that the proposed withdrawal is a zone A or a zone B withdrawal, the supervisor shall approve the withdrawal.
(ii) If the site-specific review determines that the proposed withdrawal is a zone C withdrawal, the supervisor shall not approve the withdrawal unless the permittee does either of the following:
(A) Self certifies that he or she is implementing applicable environmentally sound and economically feasible water conservation measures under MCL 324.32708a.
(B) Obtains a water withdrawal permit under MCL 324.32723.
(iii) If the site-specific review determines that the proposed withdrawal is a zone D withdrawal or likely to cause an adverse resource impact, the supervisor shall not approve the withdrawal unless the permittee has obtained a water withdrawal permit under MCL 324.32723.
(6) If the assessment tool is discontinued or replaced as a requirement for designated water withdrawal evaluations under the act, a permittee shall perform a water withdrawal evaluation utilizing an alternative method and criteria approved by the supervisor to satisfy the requirements of subrules (2)(a), (4), and (5) of this rule.
History: 2015 MR 5, Eff. March 11, 2015.

R 324.1403 Water supply monitoring and storage.
Rule 1403. (1) If 1 or more fresh water wells are present within 1,320 feet of a proposed large volume water withdrawal, the permittee shall install a monitor well between the water withdrawal well or wells and the nearest fresh water well before beginning the water withdrawal. If more than 1 aquifer is delineated at the site, the monitor well shall be completed in the same aquifer as the water withdrawal well. The permittee shall measure and record the water level in the monitor well daily during water withdrawal and weekly thereafter until the water level stabilizes. The permittee shall report all water level data weekly to the supervisor or authorized representative of the supervisor.
(2) Fresh water storage pits and impoundments shall be constructed as approved by the supervisor and shall be in compliance with all of the following minimum requirements:
(a) Berms shall be designed and constructed to prevent washouts or failures.
(b) Pits shall be constructed with rounded corners and side slopes of not less than 20 degrees measured from the vertical.
(c) Pits shall adhere to applicable soil erosion and sedimentation control measures and may require fencing.
(3) Fresh water storage pits, impoundments, or tanks shall not remain on-site more than 6 months after final completion of the well or wells for which the storage was designed unless approved by the supervisor or authorized representative of the supervisor.

History: 2015 MR 5, Eff. March 11, 2015.

R 324.1404 Ground water baseline sampling for high volume hydraulic fracturing.
Rule 1404. (1) A permit applicant or permittee of an oil and gas well for which high volume hydraulic fracturing is proposed shall collect baseline samples from all available water sources, up to a maximum of 10, within a 1/4- mile radius of the well location. All of the following apply:
(a) If more than 10 available water sources are present within a 1/4- mile radius of the proposed well location, the permit applicant or permittee shall select 10 sampling locations based on the following criteria:
(i) Available water sources closest to the proposed well location are preferred.
(ii) To the extent groundwater flow direction is known or reasonably can be inferred, sample locations from both down gradient and up-gradient are preferred over cross-gradient locations. Where groundwater flow direction is uncertain, sample locations should be chosen in a radial pattern from a well.
(iii) Where multiple defined aquifers are present, sampling the deepest and shallowest identified aquifers is preferred.
(b) Initial sampling shall be conducted not fewer than 7 days nor more than 6 months before initiation of drilling operations for a new well or in the case of a re-completion of a well, high volume hydraulic fracturing using new or existing perforations. However, initial sampling shall satisfy sampling requirements for subsequent oil and gas wells on the same or contiguous drilling sites for a period of up to 3 years.
(c) Sampling and analysis shall be conducted at the expense of the permit applicant or permittee and shall conform to all of the following procedures:
(i) Water samples shall be collected by a qualified professional utilizing proper sampling protocol and analyzed by a laboratory certified by the department.
(ii) Samples shall be analyzed for the following minimum parameters using laboratory methods approved by the United States Environmental Protection Agency:
(A) Benzene.
(B) Toluene.
(C) Ethylbenzene.
(D) Xylene.
(E) Total dissolved solids.
(F) Chloride.
(G) Methane.
(iii) The location of the sampled water sources shall be surveyed with a global positioning system device or equivalent with 3 meter or higher accuracy. The latitude and longitude coordinates shall be provided to the supervisor.
(iv) If free gas or a dissolved methane concentration greater than 1.0 milligram per liter is detected in a water sample, gas compositional analysis and stable isotope analysis of the methane (carbon and hydrogen – 12C, 13C, 1H and 2H) shall be performed to identify gas origin.
(v) The permit applicant or permittee shall notify the supervisor immediately if benzene, toluene, ethylbenzene, or xylenes are detected in a water sample.
(2) The permittee shall provide copies of all final laboratory analytical results to the supervisor and the water well owner or landowner within 45 days of collecting the samples.
History: 2015 MR 5, Eff. March 11, 2015.

R 324.1405 High volume hydraulic fracturing well completion operations; notification, monitoring, reporting, and fluid containment requirements.
Rule 1405. (1) A permittee shall notify the supervisor or authorized representative of the supervisor a minimum of 48 hours prior to the commencement of a high volume hydraulic fracturing completion. If the well is an H2S well as defined in R 324.1101, a permittee shall also notify the local emergency preparedness coordinator a minimum of 48 hours before the commencement of a high volume hydraulic fracturing completion.
(2) During high volume hydraulic fracturing operations, the permittee shall monitor and record the injection pressure at the surface and the annulus pressure between the injection string and the next string of casing unless the annulus is cemented to surface. If intermediate casing has been set on the well to be stimulated, the pressure in the annulus between the intermediate casing and the production casing shall also be monitored and recorded. The permittee shall do both of the following:
(a) Submit a continuous record of the annulus pressure during the well stimulation within 60 days of completing hydraulic fracturing operations.
(b) If during the hydraulic fracturing operation the injection pressures or annulus pressures, or both, indicate a lack of well integrity, immediately cease hydraulic fracturing operations and notify the supervisor or authorized representative

of the supervisor. The permittee of the well shall submit to the supervisor or authorized representative of the supervisor the plan of action the permittee intends to take before continuing hydraulic fracturing operations on the well. The permittee of the well shall not continue hydraulic fracturing in the well until the supervisor or authorized representative of the supervisor approves implementation of the plan of action. The supervisor or authorized representative of the supervisor may require suitable mechanical integrity tests of the casing or the casing tubing annulus or cement bond logs, or both. The permittee shall submit a report containing all details pertaining to the incident, including corrective actions taken, within 60 days of completing hydraulic fracturing operations.
(3) Flowback fluid shall be contained in tanks or in receptacles approved by the supervisor or authorized representative of the supervisor. Flowback fluid shall not be used for ice or dust control or road stabilization purposes. A permittee shall ensure that handling and disposal of flowback fluid does not cause waste as defined in section 61501(q) of the act.
(4) A permittee shall submit a copy of the following service company records within 60 days after completing high volume hydraulic fracturing operations:
(a) The actual total well stimulation treatment volume pumped.
(b) Detail as to each fluid stage pumped, including actual volume by fluid stage, proppant rate or concentration, actual chemical additive name, type, concentration or rate, and amounts.
(c) The actual breakdown pressure as measured at the surface or producing interval.
(d) The actual surface pressure and rate at the end of each fluid stage and the actual flush volume, rate and final pump pressure.
(e) The instantaneous shut-in pressure and the actual 15- minute and 30-minute shut-in pressures when these pressure measurements are available.
(5) A permittee shall report the following for a high volume hydraulic fracturing operation within 60 days of completing hydraulic fracturing operations:
(a) The total volume of water utilized.
(b) The volume and source of the water withdrawn and the dates during which the water was withdrawn.
History: 2015 MR 5, Eff. March 11, 2015.

R 324.1406 Disclosure of hydraulic fracturing fluid chemical additives.
Rule 1406. (1) A permittee shall submit information on chemical additives used in a high volume hydraulic fracturing operation using the internet-based FracFocus Chemical Disclosure Registry that is maintained by the Ground Water Protection Council and the Interstate Oil and Gas Compact Commission and is accessed at http://fracfocus.org. If the FracFocus Chemical Disclosure Registry is no longer maintained or available, the permittee shall submit the information on a form prescribed by the supervisor or by any other means approved by the supervisor. A permittee shall submit the information within 30 days after completion of a high volume hydraulic fracturing operation. A contractor or supplier performing a high volume hydraulic fracturing operation for a permittee or providing supplies for a high volume hydraulic fracturing operation shall timely provide to the permittee the information required for the permittee to comply with this rule. The information shall include the following:
(a) A list of all chemical additives used during the treatment specified by general type, such as acids, biocides, breakers, corrosion inhibitors, cross-linkers, demulsifiers, friction reducers, gels, iron controls, oxygen scavengers, pH adjusting agents, scale inhibitors, and surfactants.
(b) The specific trade name and supplier of each chemical additive.
(c) A list showing the specific identity of each chemical constituent intentionally added to the primary carrier fluid and its associated CAS number, except that the specific identities and CAS numbers of trade secret chemicals may be withheld under subrule (2) of this rule.
(d) The maximum concentration of each chemical constituent listed expressed as a percent by mass of the total volume of hydraulic fracturing fluids utilized.
(2) If the specific identity of a chemical constituent and its associated CAS number or concentration are a trade secret, the permittee may withhold the specific identity of the chemical constituent and its associated CAS number and concentration, but shall list the chemical family associated with the chemical constituent, or provide a similar description, and provide a statement that a claim of trade secret protection has been made by the entity entitled to make such a claim. If an independent contractor or supplier providing a chemical constituent to a permittee withholds any information required under this rule under a claim of trade secret, the contractor or supplier shall provide the information required for the permittee to timely comply with this subrule.
(3) Nothing in this rule shall authorize any person to withhold information that is required by state or federal law to be provided to a health care professional for the purpose of diagnosis or treatment of a medical condition.
History: 2015 MR 5, Eff. March 11, 2015.

DEPARTMENT OF ENVIRONMENTAL QUALITY

ENVIRONMENTAL ASSISTANCE DIVISION

CLEAN CORPORATE CITIZEN PROGRAM

R 324.1501
Source: 2013 AACS.

R 324.1502
Source: 2013 AACS.

R 324.1503
Source: 2013 AACS.

R 324.1504
Source: 2013 AACS.

R 324.1505
Source: 2013 AACS.

R 324.1506
Source: 2013 AACS.

R 324.1507
Source: 2013 AACS.

R 324.1508
Source: 2013 AACS.

R 324.1509
Source: 2013 AACS.

R 324.1509a
Source: 2013 AACS.

R 324.1510
Source: 2013 AACS.

R 324.1511
Source: 2013 AACS.

WASTE MANAGEMENT DIVISION

PART 5. SPILLAGE OF OIL AND POLLUTION MATERIALS

R 324.2001
Source: 2001 AACS.

R 324.2002
Source: 2001 AACS.

R 324.2003
Source: 2001 AACS.

R 324.2004

Source: 2001 AACS.

R 324.2005
Source: 2001 AACS.

R 324.2006
Source: 2001 AACS.

R 324.2007
Source: 2001 AACS.

R 324.2008
Source: 2001 AACS.

R 324.2009
Source: 2001 AACS.

DEPARTMENT OF ENVIRONMENTAL QUALITY

SURFACE WATER QUALITY DIVISION

CLEAN MICHIGAN INITIATIVE NONPOINT SOURCE POLLUTION CONTROL GRANTS

R 324.8801
Source: 1998-2000 AACS.

R 324.8802
Source: 1998-2000 AACS.

R 324.8803
Source: 1998-2000 AACS.

R 324.8804
Source: 1998-2000 AACS.

R 324.8805
Source: 1998-2000 AACS.

R 324.8806
Source: 1998-2000 AACS.

R 324.8807
Source: 1998-2000 AACS.

R 324.8808
Source: 1998-2000 AACS.

R 324.8809
Source: 1998-2000 AACS.

R 324.8810
Source: 1998-2000 AACS.

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

SURFACE WATER QUALITY DIVISION

CLEAN WATER FUND

R 324.8901
Source: 1998-2000 AACS.

R 324.8902
Source: 1998-2000 AACS.

R 324.8903
Source: 1998-2000 AACS.

R 324.8904
Source: 1998-2000 AACS.

R 324.8905
Source: 1998-2000 AACS.

R 324.8906
Source: 1998-2000 AACS.

R 324.8907
Source: 1998-2000 AACS.

R 324.8908
Source: 1998-2000 AACS.

R 324.8909
Source: 1998-2000 AACS.

R 324.8910
Source: 1998-2000 AACS.

R 324.8911
Source: 1998-2000 AACS.

R 324.8912
Source: 1998-2000 AACS.

R 324.8913
Source: 1998-2000 AACS.

R 324.8914
Source: 1998-2000 AACS.

R 324.8915
Source: 2001 AACS.

R 324.8916
Source: 1998-2000 AACS.

R 324.8917
Source: 1998-2000 AACS.

R 324.8918
Source: 1998-2000 AACS.

R 324.8919
Source: 1998-2000 AACS.

R 324.8920
Source: 1998-2000 AACS.

DEPARTMENT OF ENVIRONMENTAL QUALITY

ENVIRONMENTAL ASSISTANCE DIVISION

SMALL BUSINESS POLLUTION PREVENTION ASSISTANCE LOAN

R 324.14501
Source: 2013 AACS.

R 324.14502
Source: 1998-2000 AACS.

R 324.14503
Source: 2013 AACS.

R 324.14504
Source: 2013 AACS.

R 324.14505
Source: 2013 AACS.

R 324.14506
Source: 2013 AACS.

R 324.14507
Source: 2013 AACS.

R 324.14508
Source: 2013 AACS.

DEPARTMENT OF ENVIRONMENTAL QUALITY

STORAGE TANK DIVISION

MICHIGAN UNDERGROUND STORAGE TANK QUALIFIED CONSULTANTS AND CERTIFIED PROFESSIONALS

R 324.21501
Source: 2012 AACS.

R 324.21502
Source: 2012 AACS.

R 324.21503
Source: 2012 AACS.

R 324.21504
Source: 2012 AACS.

R 324.21505
Source: 2012 AACS.

R 324.21506
Source: 2012 AACS.

R 324.21507
Source: 2012 AACS.

R 324.21508
Source: 2012 AACS.

R 324.21509
Source: 2012 AACS.

R 324.21510
Source: 2012 AACS.

R 324.21511
Source: 2012 AACS.

R 324.21512
Source: 2012 AACS.

R 324.21513
Source: 2012 AACS.

R 324.21514
Source: 2012 AACS.

R 324.21515
Source: 2012 AACS.

R 324.21516
Source: 2012 AACS.

DEPARTMENT OF COMMUNITY HEALTH

BUREAU OF DISEASE CONTROL AND LABORATORY SERVICES

CONTROL OF COMMUNICABLE DISEASES

R 325.1
Source: 1998-2000 AACS.

R 325.2
Source: 1998-2000 AACS.

R 325.3
Source: 1998-2000 AACS.

R 325.4
Source: 1998-2000 AACS.

R 325.5
Source: 1998-2000 AACS.

R 325.6
Source: 1998-2000 AACS.

R 325.7
Source: 1998-2000 AACS.

R 325.8
Source: 1998-2000 AACS.

R 325.9
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R 325.10
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R 325.11
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R 325.12
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R 325.16
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R 325.17
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R 325.18
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R 325.19
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R 325.20
Source: 1998-2000 AACS.

R 325.21
Source: 1998-2000 AACS.

R 325.22
Source: 1998-2000 AACS.

R 325.23
Source: 1998-2000 AACS.

R 325.24
Source: 1998-2000 AACS.

R 325.25
Source: 1998-2000 AACS.

R 325.26

Source: 1998-2000 AACS.

R 325.27
Source: 1998-2000 AACS.

R 325.28
Source: 1998-2000 AACS.

R 325.29
Source: 1998-2000 AACS.

R 325.30
Source: 1998-2000 AACS.

R 325.31
Source: 1998-2000 AACS.

R 325.32
Source: 1998-2000 AACS.

R 325.33
Source: 1998-2000 AACS.

R 325.34
Source: 1998-2000 AACS.

R 325.35
Source: 1998-2000 AACS.

R 325.36
Source: 1998-2000 AACS.

R 325.37
Source: 1998-2000 AACS.

R 325.38
Source: 1998-2000 AACS.

R 325.39
Source: 1998-2000 AACS.

R 325.40
Source: 1998-2000 AACS.

R 325.41
Source: 1998-2000 AACS.

R 325.42
Source: 1998-2000 AACS.

R 325.43
Source: 1998-2000 AACS.

R 325.44
Source: 1998-2000 AACS.

R 325.45
Source: 1998-2000 AACS.

R 325.46
Source: 1998-2000 AACS.

R 325.47
Source: 1998-2000 AACS.

R 325.48
Source: 1998-2000 AACS.

R 325.49
Source: 1998-2000 AACS.

R 325.50
Source: 1998-2000 AACS.

R 325.51
Source: 1998-2000 AACS.

R 325.52
Source: 1998-2000 AACS.

R 325.53
Source: 1998-2000 AACS.

R 325.54
Source: 1998-2000 AACS.

R 325.55
Source: 1998-2000 AACS.

R 325.56
Source: 1998-2000 AACS.

R 325.57
Source: 1998-2000 AACS.

R 325.58
Source: 1998-2000 AACS.

R 325.59
Source: 1998-2000 AACS.

R 325.60
Source: 2010 AACS.

R 325.61
Source: 2005 AACS.

R 325.62
Source: 2005 AACS.

R 325.63
Source: 2005 AACS.

R 325.64
Source: 2005 AACS.

R 325.65
Source: 2005 AACS.

R 325.66
Source: 2005 AACS.

R 325.67
Source: 2005 AACS.

R 325.68
Source: 2005 AACS.

R 325.70
Source: 1997 AACS.

R 325.71
Source: 2009 AACS.

R 325.72
Source: 2009 AACS.

R 325.73
Source: 2007 AACS.

R 325.74
Source: 2009 AACS.

R 325.75
Source: 2009 AACS.

R 325.80
Source: 1997 AACS.

R 325.81
Source: 1997 AACS.

R 325.90
Source: 1997 AACS.

R 325.100
Source: 1997 AACS.

R 325.101
Source: 1997 AACS.

R 325.102
Source: 1997 AACS.

R 325.103
Source: 1997 AACS.

R 325.104
Source: 1997 AACS.

R 325.106
Source: 1997 AACS.

R 325.107
Source: 1997 AACS.

R 325.110
Source: 1997 AACS.

R 325.115
Source: 1997 AACS.

R 325.120
Source: 1997 AACS.

R 325.121
Source: 1997 AACS.

BUREAU OF HEALTH POLICY, PLANNING AND ACCESS

EMS AND TRAUMA SERVICES SECTION

STATEWIDE TRAUMA SYSTEM

PART 1. GENERAL PROVISIONS

R 325.125
Source: 2007 AACS.

R 325.126
Source: 2007 AACS.

R 325.127
Source: 2007 AACS.

R 325.128
Source: 2007 AACS.

R 325.129
Source: 2009 AACS.

R 325.130
Source: 2007 AACS.

R 325.131
Source: 2007 AACS.

R 325.132
Source: 2007 AACS.

R 325.133
Source: 2007 AACS.

R 325.134
Source: 2007 AACS.

R 325.135
Source: 2007 AACS.

R 325.136
Source: 2007 AACS.

R 325.137
Source: 2007 AACS.

R 325.138
Source: 2007 AACS.

FAMILY PLANNING SERVICES

R 325.151 Rescinded.
History: 1979 AC; 2015 MR 16, repeal Eff. September 30, 1978.

R 325.152 Rescinded.
History: 1979 AC; 2015 MR 16, repeal Eff. September 30, 1978.

R 325.153 Rescinded.
History: 1979 AC; 2015 MR 16, repeal Eff. September 30, 1978.

R 325.154 Rescinded.
History: 1979 AC; 2015 MR 16, repeal Eff. September 30, 1978.

R 325.155 Rescinded.
History: 1979 AC; 2015 MR 16, repeal Eff. September 30, 1978.

R 325.156 Rescinded.
History: 1979 AC; 2015 MR 16, repeal Eff. September 30, 1978.

HEALTH LEGISLATION AND POLICY DEVELOPMENT
MICHIGAN CARE IMPROVEMENT REGISTRY

R 325.161
Source: 2012 AACS.

R 325.162
Source: 2012 AACS.

R 325.163
Source: 2012 AACS.

R 325.163a
Source: 2012 AACS.

R 325.164
Source: 1997 AACS.

R 325.165
Source: 2009 AACS.

R 325.166
Source: 2012 AACS.

R 325.167
Source: 1997 AACS.

R 325.168
Source: 2009 AACS.

R 325.169
Source: 1997 AACS.

BUREAU OF INFECTIOUS DISEASE CONTROL

COMMUNICABLE AND RELATED DISEASES

R 325.171
Source: 2014 AACS.

R 325.172
Source: 2014 AACS.

R 325.173
Source: 2014 AACS.

R 325.174
Source: 2014 AACS.

R 325.175
Source: 2014 AACS.

R 325.176
Source: 2014 AACS.

R 325.177
Source: 1993 AACS.

R 325.178
Source: 2014 AACS.

R 325.179
Source: 2009 AACS.

R 325.179a.
Source: 2014 AACS.

R 325.179b
Source: 2009 AACS.

R 325.180
Source: 2014 AACS.

R 325.181
Source: 2014 AACS.

R 325.182
Source: 2010 AACS.

R 325.199
Source: 1993 AACS.

RABIES

R 325.201
Source: 1997 AACS.

OFFICE OF THE DIRECTOR

CONVALESCENT SERA AND VACCINES

R 325.210
Source: 1997 AACS.

R 325.211
Source: 1997 AACS.

R 325.212
Source: 1997 AACS.

R 325.213
Source: 1997 AACS.

R 325.214
Source: 1997 AACS.

R 325.215
Source: 1997 AACS.

R 325.216
Source: 1997 AACS.

R 325.217
Source: 1997 AACS.

R 325.218
Source: 1997 AACS.

R 325.219
Source: 1997 AACS.

R 325.220
Source: 1997 AACS.

R 325.221
Source: 1997 AACS.

R 325.222
Source: 1997 AACS.

R 325.223
Source: 1997 AACS.

R 325.224
Source: 1997 AACS.

POLIOMYELITIS VACCINE

R 325.231
Source: 1997 AACS.

R 325.232
Source: 1997 AACS.

R 325.233

Source: 1997 AACS.

R 325.234
Source: 1997 AACS.

R 325.235
Source: 1997 AACS.

R 325.236
Source: 1997 AACS.

R 325.237
Source: 1997 AACS.

R 325.238
Source: 1997 AACS.

R 325.239
Source: 1997 AACS.

DIABETES RESEARCH

R 325.271
Source: 1997 AACS.

R 325.272
Source: 1997 AACS.

R 325.273
Source: 1997 AACS.

R 325.274
Source: 1997 AACS.

R 325.275
Source: 1997 AACS.

KIDNEY TRAINING

R 325.281
Source: 1997 AACS.

R 325.282
Source: 1997 AACS.

R 325.283
Source: 1997 AACS.

R 325.284
Source: 1997 AACS.

BUREAU OF EPIDEMIOLOGY

DIVISION OF ENVIRONMENTAL HEALTH

REPORTING OF TRAUMATIC INJURIES

R 325.301
Source: 2010 AACS.

R 325.302
Source: 2010 AACS.

R 325.303
Source: 2010 AACS.

R 325.304
Source: 2010 AACS.

R 325.305
Source: 2010 AACS.

R 325.306
Source: 2010 AACS.

BUREAU OF PERSONAL HEALTH SERVICES

MIDWIVES

R 325.321
Source: 1997 AACS.

R 325.322
Source: 1997 AACS.

R 325.323
Source: 1997 AACS.

R 325.324
Source: 1997 AACS.

R 325.325
Source: 1997 AACS.

R 325.326
Source: 1997 AACS.

R 325.327
Source: 1997 AACS.

R 325.328
Source: 1997 AACS.

R 325.329
Source: 1997 AACS.

R 325.330
Source: 1997 AACS.

OFFICE OF THE DIRECTOR

MINIMUM STANDARDS FOR GROUP DAY CARE OF CHILDREN

R 325.341
Source: 1997 AACS.

R 325.342
Source: 1997 AACS.

R 325.343
Source: 1997 AACS.

COMMUNICABLE DISEASES IN CHILDREN IN GROUP RESIDENCE, CARE, EDUCATION, AND CAMPING

R 325.351
Source: 1997 AACS.

R 325.352
Source: 1997 AACS.

SPECIAL AGENTS OF BUREAU OF RECORDS AND STATISTICS

R 325.361
Source: 1997 AACS.

CONSTRUCTION AND ALTERATION OF PUBLIC SWIMMING POOLS

R 325.391--R 325.406
Source: 1971 AC.

OUTHOUSES

R 325.421
Source: 1979 AC.

R 325.422
Source: 1979 AC.

R 325.423
Source: 1979 AC.

R 325.424
Source: 1979 AC.

R 325.425
Source: 1979 AC.

R 325.426
Source: 1979 AC.

BARBER SHOPS

R 325.451
Source: 1997 AACS.

FOOD ESTABLISHMENTS

R 325.592

Source: 1997 AACS.

R 325.593
Source: 1997 AACS.

MICHIGAN MILK ORDINANCE

R 325.681--R 325.717
Source: 1979 AC.

Editor's note: At the request of the department of public health, the above rules have been omitted from the Michigan Administrative Code of 1979. For text of these rules, see the Michigan Administrative Code of 1954, pp. 2295-2303.

DEPARTMENT OF ENVIRONMENTAL QUALITY

WATER BUREAU

SANITARY STANDARDS FOR SCHOOLS

R 325.721
Source: 2005 AACS.

R 325.722
Source: 2005 AACS.

R 325.723
Source: 2005 AACS.

R 325.724
Source: 2005 AACS.

R 325.725
Source: 2005 AACS.

R 325.726
Source: 2005 AACS.

R 325.727
Source: 2005 AACS.

R 325.728
Source: 2005 AACS.

R 325.729
Source: 2005 AACS.

R 325.730
Source: 2005 AACS.

R 325.731
Source: 2005 AACS.

R 325.732
Source: 2005 AACS.

R 325.733
Source: 2005 AACS.

R 325.734

Source: 2005 AACS.

BOTTLE CAPS

R 325.741
Source: 1997 AACS.

TRAILER COACH PARKS

R 325.746
Source: 1997 AACS.

BUREAU OF DISEASE CONTROL AND LABORATORY SERVICES

CONTROL OF TUBERCULOSIS

PART 1. STATE SUBSIDY

R 325.763
Source: 1997 AACS.

PART 2. ADMISSIONS TO TUBERCULOSIS HOSPITALS

R 325.771
Source: 1997 AACS.

R 325.772
Source: 1997 AACS.

R 325.773
Source: 1997 AACS.

R 325.775
Source: 1997 AACS.

PART 3. TRANSFERS, DISCHARGES, AND DEATHS

R 325.781
Source: 1997 AACS.

R 325.782
Source: 1997 AACS.

R 325.783
Source: 1997 AACS.

R 325.784
Source: 1997 AACS.

R 325.786
Source: 1997 AACS.

PART 4A. VOUCHERS FOR COUNTY CHARGE PATIENTS

R 325.801
Source: 1997 AACS.

R 325.802
Source: 1997 AACS.

R 325.803
Source: 1997 AACS.

R 325.804
Source: 1997 AACS.

PART 4B. VOUCHERS FOR STATE AT LARGE PATIENTS

R 325.811
Source: 1997 AACS.

R 325.812
Source: 1997 AACS.

R 325.813
Source: 1997 AACS.

R 325.814
Source: 1997 AACS.

R 325.815
Source: 1997 AACS.

R 325.816
Source: 1997 AACS.

R 325.817
Source: 1997 AACS.

R 325.818
Source: 1997 AACS.

R 325.820
Source: 1997 AACS.

PART 5. REIMBURSEMENTS FOR CARE OF PATIENTS

R 325.831
Source: 1997 AACS.

R 325.832
Source: 1997 AACS.

R 325.833
Source: 1997 AACS.

R 325.834
Source: 1997 AACS.

PART 6. RECALCITRANT PATIENTS

R 325.841
Source: 1997 AACS.

R 325.842

Source: 1997 AACS.

R 325.843
Source: 1997 AACS.

R 325.844
Source: 1997 AACS.

R 325.845
Source: 1997 AACS.

R 325.846
Source: 1997 AACS.

R 325.847
Source: 1997 AACS.

R 325.848
Source: 1997 AACS.

R 325.849
Source: 1997 AACS.

R 325.850
Source: 1997 AACS.

R 325.851
Source: 1997 AACS.

R 325.852
Source: 1997 AACS.

PART 7. REIMBURSEMENT PROCEDURE

R 325.861
Source: 1997 AACS.

R 325.862
Source: 1997 AACS.

R 325.863
Source: 1997 AACS.

R 325.864
Source: 1997 AACS.

R 325.865
Source: 1997 AACS.

R 325.866
Source: 1997 AACS.

R 325.867
Source: 1997 AACS.

R 325.871

Source: 1997 AACS.

R 325.872
Source: 1997 AACS.

R 325.873
Source: 1997 AACS.

R 325.874
Source: 1997 AACS.

R 325.875
Source: 1997 AACS.

PART 8. VOLUNTARY AGREEMENTS BY PATIENTS TO MAKE REIMBURSEMENT

R 325.881
Source: 1997 AACS.

R 325.882
Source: 1997 AACS.

R 325.883
Source: 1997 AACS.

R 325.884
Source: 1997 AACS.

R 325.885
Source: 1997 AACS.

R 325.886
Source: 1997 AACS.

PART 9. WITHHOLDING SUBSIDIES

R 325.891
Source: 1997 AACS.

PART 10. REPORTS OF CHEST X-RAYS

R 325.896
Source: 1997 AACS.

PART 11. EXAMINATION OF PERSONS IN HIGH EXPOSURE GROUPS

R 325.897
Source: 1997 AACS.

R 325.898
Source: 1997 AACS.

REIMBURSEMENT FOR OUTPATIENT SERVICES

R 325.901
Source: 1997 AACS.

R 325.902
Source: 1997 AACS.

HUMANE CARE AND USE OF ANIMALS

R 325.921
Source: 2014 AACS.

R 325.922
Source: 2014 AACS.

R 325.923
Source: 2014 AACS.

R 325.924
Source: 2014 AACS.

R 325.925
Source: 2014 AACS.

R 325.926
Source: 2014 AACS.

ANATOMY BOARD

ANATOMICAL GIFTS

R 325.951
Source: 1981 AACS.

R 325.952
Source: 1981 AACS.

R 325.953
Source: 1981 AACS.

R 325.954
Source: 1981 AACS.

R 325.955
Source: 1981 AACS.

DEPARTMENT OF COMMUNITY HEALTH

DIVISION OF CHRONIC DISEASE AND INJURY

CANCER

R 325.971 Rescinded.
History: 1944 ACS 10; 1954 AC; 1979 AC; 2015 MR 15, Eff. September 30, 1978.
Editor's note: This rule appears in the Michigan Administrative Code of 1954 as R 325.975.

BUREAU OF DISEASE CONTROL AND LABORATORY SERVICES

HUMANE USE OF ANIMALS

R 325.981
Source: 1997 AACS.

R 325.982
Source: 1997 AACS.

R 325.983
Source: 1997 AACS.

R 325.984
Source: 1997 AACS.

R 325.985
Source: 1997 AACS.

R 325.986
Source: 1997 AACS.

R 325.987
Source: 1997 AACS.

R 325.988
Source: 1997 AACS.

R 325.989
Source: 1997 AACS.

R 325.990
Source: 1997 AACS.

R 325.991
Source: 1997 AACS.

R 325.992
Source: 1997 AACS.

DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

BUREAU OF HEALTH SYSTEMS

DIVISION OF HEALTH FACILITIES AND SERVICES

MINIMUM STANDARDS FOR HOSPITALS

R 325.1001
Source: 1979 AC.

R 325.1002
Source: 1979 AC.

R 325.1003
Source: 1979 AC.

R 325.1004
Source: 1979 AC.

R 325.1005
Source: 1979 AC.

PART 2. LICENSURE AND REPORTS FOR MATERNITY HOSPITALS

R 325.1011 Rescinded.
History: 1954 AC; 1979 AC; 2015 MR 21, Eff. Nov. 13, 2015.

R 325.1012 Rescinded.
History: 1954 AC; 1979 AC; 2015 MR 21, Eff. Nov. 13, 2015.

R 325.1013 Rescinded.
History: 1954 AC; 1979 AC; 2015 MR 21, Eff. Nov. 13, 2015.

R 325.1014 Rescinded.
History: 1954 AC; rescinded 1954 ACS 24, Eff. June 14, 1957.

R 325.1015 Rescinded.
History: 1954 AC; 1979 AC; 2015 MR 21, Eff. Nov. 13, 2015.

R 325.1016 Rescinded.
History: 1954 AC; 1979 AC; 2015 MR 21, Eff. Nov. 13, 2015.

PART 3. OPERATIONAL RULES AND MINIMUM STANDARDS FOR ALL HOSPITAL PHYSICAL PLANT, FACILITIES, EQUIPMENT, AND OPERATIONS

R 325.1021
Source: 1979 AC.

R 325.1022
Source: 1979 AC.

R 325.1023
Source: 1979 AC.

R 325.1024
Source: 1979 AC.

R 325.1025
Source: 1979 AC.

R 325.1026
Source: 1979 AC.

R 325.1027
Source: 1979 AC.

R 325.1028
Source: 1979 AC.

ADDITIONAL REQUIREMENTS FOR MATERNITY HOSPITALS AND DEPARTMENTS

R 325.1051
Source: 1979 AC.

R 325.10521
Source: 1979 AC.

R 325.1053

Source: 1981 AACS.

R 325.1054
Source: 1981 AACS.

R 325.1055
Source: 1979 AC.

R 325.1056
Source: 1981 AACS.

R 325.1057
Source: 1979 AC.

R 325.1058
Source: 1979 AC.

R 325.1059
Source: 1979 AC.

R 325.1060 Rescinded.
History: 1954 AC; 1979 AC; 2015 MR 21, Eff. Nov. 13, 2015.

R 325.1071
Source: 1979 AC.

R 325.1081
Source: 1979 AC.

R 325.1100
Source: 1979 AC.

DEPARTMENT OF ENVIRONMENTAL QUALITY

SOLID WASTE MANAGEMENT DIVISION

SOLID WASTE DISPOSAL

R 325.1101, R 325.1102
Editor's note: Transferred to R 325.2701, R 325.2702.

R 325.1103--R 325.1105
Editor's note: Transferred to R 325.2721--R 325.2723.

R 325.1106--R 325.1110
Editor's note: Transferred to R 325.2731--R 325.2735.

R 325.1121--R 325.1128
Source: 1976 AC.

DEPARTMENT OF COMMUNITY HEALTH

BUREAU OF EPIDEMIOLOGY

TRANSPORTATION AND DISPOSITION OF DEAD BODIES

R 325.1141 Rescinded.

History: 1954 AC; 1979 AC; 2015 MR 17, Eff. Oct. 19, 1979.

R 325.1142 Rescinded.
History: 1954 AC; 1979 AC; 2015 MR 17, Eff. Oct. 19, 1979.

R 325.1143 Rescinded.
History: 1954 AC; 1979 AC; 2015 MR 17, Eff. Oct. 19, 1979.

R 325.1144 Rescinded.
History: 1954 AC; 1979 AC; 2015 MR 17, Eff. Oct. 19, 1979.

R 325.1145 Rescinded.
History: 1954 AC; 1979 AC; 2015 MR 17, Eff. Oct. 19, 1979.

DEPARTMENT OF COMMUNITY HEALTH

BUREAU OF EPIDEMIOLOGY

DONATED AND UNCLAIMED DEAD HUMAN BODIES OR PARTS

R 325.1151--R 325.1161
Source: 1966 AC.

R 325.1171--R 325.1177
Source: 1984 AC.

R 325.1178
Source: 1979 AC.

HEARINGS

R 325.1201
Source: 1997 AACS.

R 325.1202
Source: 1997 AACS.

R 325.1203
Source: 1997 AACS.

R 325.1204
Source: 1997 AACS.

R 325.1205
Source: 1997 AACS.

R 325.1206
Source: 1997 AACS.

DEPARTMENT OF COMMUNITY HEALTH

LEGISLATION AND POLICY

REQUESTS FOR DECLARATORY RULINGS

R 325.1211

Source: 2008 AACS.

DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

BUREAU OF HEALTH SYSTEMS

OFFICE OF THE DIRECTOR

COMPLAINTS

R 325.1213
Source: 1979 AC.

R 325.1214
Source: 1979 AC.

R 325.1215
Source: 1979 AC.

R 325.1216
Source: 1979 AC.

R 325.1217
Source: 1979 AC.

DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

BUREAU OF HEALTH SYSTEMS

OFFICE OF THE DIRECTOR

PUBLIC INSPECTION OF LICENSE RECORDS

R 325.1281
Source: 1979 AC.

R 325.1282
Source: 1979 AC.

DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

BOARD OF EXAMINERS FOR SANITARIANS

R 325.1401
Source: 1997 AACS.

R 325.1402
Source: 1997 AACS.

R 325.1403
Source: 1997 AACS.

R 325.1404
Source: 1997 AACS.

R 325.1405
Source: 1997 AACS.

R 325.1406
Source: 1997 AACS.

R 325.1407
Source: 1997 AACS.

R 325.1408
Source: 1997 AACS.

R 325.1409
Source: 1997 AACS.

R 325.1410
Source: 1997 AACS.

R 325.1411
Source: 1997 AACS.

R 325.1412
Source: 1997 AACS.

DEPARTMENT OF COMMUNITY HEALTH

POLICY AND LEGAL AFFAIRS ADMINISTRATION

PHENYLKETONURIA TEST ON NEWBORN INFANTS

R 325.1471
Source: 2003 AACS.

R 325.1472
Source: 2003 AACS.

R 325.1473
Source: 2003 AACS.

R 325.1474
Source: 2003 AACS.

R 325.1475
Source: 2003 AACS.

DEPARTMENT OF COMMUNITY HEALTH

OFFICE OF THE DIRECTOR

PRESCHOOL VISION TESTS

R 325.1481
Source: 1997 AACS.

DISEASE CONTROL IN SCHOOLS

R 325.1491
Source: 1997 AACS.

DEPARTMENT OF AGRICULTURE

AGRICULTURAL LABOR CAMPS

R 325.1501
Source: 1997 AACS.

R 325.1502
Source: 1997 AACS.

R 325.1503
Source: 1997 AACS.

R 325.1504
Source: 1997 AACS.

R 325.1505
Source: 1997 AACS.

R 325.1506
Source: 1997 AACS.

R 325.1507
Source: 1997 AACS.

R 325.1508
Source: 1997 AACS.

R 325.1509
Source: 1997 AACS.

R 325.1510
Source: 1997 AACS.

R 325.1511
Source: 1997 AACS.

R 325.1512
Source: 1997 AACS.

R 325.1513
Source: 1997 AACS.

R 325.1514
Source: 1997 AACS.

R 325.1515
Source: 1997 AACS.

R 325.1531
Source: 1997 AACS.

R 325.1532
Source: 1997 AACS.

R 325.1533
Source: 1997 AACS.

R 325.1534
Source: 1997 AACS.

R 325.1535
Source: 1997 AACS.

R 325.1536
Source: 1997 AACS.

DEPARTMENT OF ENVIRONMENTAL QUALITY

DRINKING WATER AND RADIOLOGICAL PROTECTION DIVISION

MEDICAL WASTE PRODUCING FACILITIES

325.1541
Source: 1998-2000 AACS.

325.1542
Source: 1998-2000 AACS.

325.1543
Source: 1998-2000 AACS.

325.1544
Source: 1998-2000 AACS.

325.1545
Source: 1998-2000 AACS.

325.1546
Source: 1998-2000 AACS.

325.1547
Source: 1998-2000 AACS.

325.1548
Source: 1998-2000 AACS.

325.1549
Source: 1998-2000 AACS.

DEPARTMENT OF ENVIRONMENTAL QUALITY

DIVISION OF ENVIRONMENTAL HEALTH

CAMPGROUNDS

R 325.1551
Source: 1998-2000 AACS.

R 325.1552
Source: 1998-2000 AACS.

R 325.1553
Source: 1998-2000 AACS.

R 325.1554

Source: 1998-2000 AACS.

R 325.1555
Source: 1998-2000 AACS.

R 325.1555a
Source: 1998-2000 AACS.

R 325.1555b
Source: 1998-2000 AACS.

R 325.1556
Source: 1998-2000 AACS.

R 325.1556a
Source: 1998-2000 AACS.

R 325.1556b
Source: 1998-2000 AACS.

R 325.1557
Source: 1998-2000 AACS.

R 325.1558
Source: 1998-2000 AACS.

R 325.1559
Source: 1998-2000 AACS.

R 325.1560
Source: 1998-2000 AACS.

R 325.1561
Source: 1998-2000 AACS.

R 325.1562
Source: 1998-2000 AACS.

R 325.1563
Source: 1998-2000 AACS.

R 325.1564
Source: 1998-2000 AACS.

R 325.1566
Source: 1998-2000 AACS.

R 325.1568
Source: 1998-2000 AACS.

R 325.1569
Source: 1987 AACS.

R 325.1571
Source: 1998-2000 AACS.

R 325.1574
Source: 1998-2000 AACS.

R 325.1576
Source: 1998-2000 AACS.

R 325.1585
Source: 1987 AACS.

R 325.1586
Source: 1998-2000 AACS.

R 325.1599
Source: 1998-2000 AACS.

DIVISION OF WATER SUPPLY

GROUNDWATER QUALITY CONTROL

PART 1. WELL CONSTRUCTION CODE

R 325.1601
Source: 1994 AACS.

R 325.1601a
Source: 1994 AACS.

R 325.1602
Source: 1994 AACS.

R 325.1603
Source: 1994 AACS.

R 325.1603a
Source: 1994 AACS.

R 325.1604
Source: 1994 AACS.

R 325.1605
Source: 1994 AACS.

R 325.1606
Source: 1994 AACS.

R 325.1607
Source: 1994 AACS.

R 325.1608
Source: 1994 AACS.

R 325.1610
Source: 1994 AACS.

R 325.1611
Source: 1994 AACS.

R 325.1612
Source: 1994 AACS.

R 325.1613

Source: 1994 AACS.

R 325.1621
Source: 1994 AACS.

R 325.1622
Source: 1994 AACS.

R 325.1624
Source: 1994 AACS.

R 325.1625
Source: 1994 AACS.

R 325.1626
Source: 1994 AACS.

R 325.1627
Source: 1994 AACS.

R 325.1631
Source: 1997 AACS.

R 325.1631a
Source: 1994 AACS.

R 325.1631b
Source: 1994 AACS.

R 325.1631c
Source: 1994 AACS.

R 325.1631d
Source: 1994 AACS.

R 325.1632
Source: 1994 AACS.

R 325.1632a
Source: 1994 AACS.

R 325.1633
Source: 1997 AACS.

R 325.1633a
Source: 1994 AACS.

R 325.1634
Source: 1997 AACS.

R 325.1634a
Source: 1994 AACS.

R 325.1635
Source: 1994 AACS.

R 325.1636
Source: 1997 AACS.

R 325.1637
Source: 1994 AACS.

R 325.1637a
Source: 1994 AACS.

R 325.1638
Source: 1994 AACS.

R 325.1639
Source: 1994 AACS.

R 325.1640
Source: 1994 AACS.

R 325.1641
Source: 1994 AACS.

R 325.1642
Source: 1994 AACS.

R 325.1651
Source: 1994 AACS.

R 325.1652
Source: 1997 AACS.

R 325.1653
Source: 1994 AACS.

R 325.1653a
Source: 1994 AACS.

R 325.1654
Source: 1994 AACS.

R 325.1655
Source: 1994 AACS.

R 325.1656
Source: 1994 AACS.

R 325.1656a
Source: 1994 AACS.

R 325.1657
Source: 1994 AACS.

R 325.1657a
Source: 1994 AACS.

R 325.1658
Source: 1994 AACS.

R 325.1661
Source: 1994 AACS.

R 325.1662
Source: 1994 AACS.

R 325.1663
Source: 1994 AACS.

R 325.1664
Source: 1994 AACS.

R 325.1665
Source: 1994 AACS.

R 325.1666
Source: 1997 AACS.

R 325.1667
Source: 1994 AACS.

R 325.1668
Source: 1994 AACS.

R 325.1669
Source: 1994 AACS.

R 325.1670
Source: 1994 AACS.

R 325.1671
Source: 1997 AACS.

R 325.1672
Source: 1994 AACS.

R 325.1673
Source: 1994 AACS.

R 325.1674
Source: 1994 AACS.

R 325.1674a
Source: 1994 AACS.

R 325.1675
Source: 1994 AACS.

R 325.1676
Source: 1994 AACS.

PART 2. DRILLING CONTRACTORS' AND PUMP INSTALLERS' REGISTRATION

R 325.1701
Source: 1994 AACS.

R 325.1701a
Source: 1994 AACS.

R 325.1702
Source: 1994 AACS.

R 325.1703
Source: 1994 AACS.

R 325.1704
Source: 1994 AACS.

R 325.1705
Source: 1997 AACS.

R 325.1705a
Source: 1994 AACS.

R 325.1706
Source: 1994 AACS.

R 325.1707
Source: 1994 AACS.

R 325.1707a
Source: 1994 AACS.

R 325.1708
Source: 1994 AACS.

R 325.1709
Source: 1994 AACS.

R 325.1711
Source: 1994 AACS.

PART 3. DRILLING MACHINES AND SERVICE VEHICLES

R 325.1721
Source: 1994 AACS.

R 325.1722
Source: 1994 AACS.

FAMILY INDEPENDENCE AGENCY

DIRECTOR'S OFFICE

HOMES FOR THE AGED

R 325.1801
Source: 2004 AACS.

R 325.1811
Source: 2004 AACS.

R 325.1812
Source: 2004 AACS.

R 325.1813
Source: 2004 AACS.

R 325.1815
Source: 2004 AACS.

R 325.1816

Source: 2004 AACS.

R 325.1819
Source: 2004 AACS.

R 325.1821
Source: 2004 AACS.

R 325.1825
Source: 2004 AACS.

R 325.1827
Source: 2004 AACS.

R 325.1829
Source: 2004 AACS.

R 325.1831
Source: 2004 AACS.

R 325.1833
Source: 2004 AACS.

R 325.1835
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R 325.1836
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R 325.1837
Source: 2004 AACS.

R 325.1839
Source: 2004 AACS.

R 325.1841
Source: 2004 AACS.

R 325.1843
Source: 2004 AACS.

R 325.1845
Source: 2004 AACS.

R 325.1847
Source: 2004 AACS.

R 325.1851
Source: 2004 AACS.

R 325.1853
Source: 2004 AACS.

R 325.1855
Source: 2004 AACS.

R 325.1857
Source: 2004 AACS.

R 325.1859
Source: 2004 AACS.

R 325.1861
Source: 2004 AACS.

R 325.1863
Source: 2004 AACS.

R 325.1865
Source: 2004 AACS.

R 325.1867
Source: 2004 AACS.

R 325.1871
Source: 2004 AACS.

R 325.1872
Source: 2004 AACS.

R 325.1873
Source: 2004 AACS.

R 325.1874
Source: 2004 AACS.

R 325.1875
Source: 2004 AACS.

R 325.1876
Source: 2004 AACS.

R 325.1877
Source: 2004 AACS.

R 325.1878
Source: 2004 AACS.

R 325.1879
Source: 2004 AACS.

R 325.1880
Source: 2004 AACS.

R 325.1881
Source: 2004 AACS.

R 325.1882
Source: 2004 AACS.

R 325.1883
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R 325.1884
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R 325.1885
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R 325.1886
Source: 2004 AACS.

R 325.1887
Source: 2004 AACS.

R 325.1888
Source: 2004 AACS.

R 325.1889
Source: 2004 AACS.

R 325.1890
Source: 2004 AACS.

R 325.1891
Source: 2004 AACS.

PART 1. GENERAL PROVISIONS

R 325.1901
Source: 2004 AACS.

R 325.1909
Source: 1997 AACS.

PART 2. STATE ADMINISTRATION

R 325.1911
Source: 2004 AACS.

R 325.1912
Source: 2004 AACS.

R 325.1913
Source: 2004 AACS.

R 325.1914
Source: 2004 AACS.

R 325.1915
Source: 2004 AACS.

R 325.1916
Source: 2004 AACS.

R 325.1917
Source: 2004 AACS.

R 325.1919

Source: 1997 AACS.

PART 3. ADMINISTRATIVE MANAGEMENT OF HOMES

R 325.1921
Source: 2004 AACS.

R 325.1922
Source: 2004 AACS.

R 325.1923
Source: 2004 AACS.

R 325.1924
Source: 2004 AACS.

R 325.1925
Source: 1997 AACS.

R 325.1927
Source: 1997 AACS.

R 325.1928
Source: 1997 AACS.

PART 4. RESIDENT CARE

R 325.1931
Source: 2004 AACS.

R 325.1932
Source: 2013 AACS.

R 325.1933
Source: 2004 AACS.

R 325.1934
Source: 2004 AACS.

R 325.1935
Source: 2004 AACS.

R 325.1936
Source: 1997 AACS.

R 325.1937
Source: 1997 AACS.

R 325.1938
Source: 1997 AACS.

R 325.1939
Source: 1997 AACS.

PART 5. RECORDS

R 325.1941
Source: 2004 AACS.

R 325.1942
Source: 2004 AACS.

R 325.1943
Source: 2004 AACS.

R 325.1944
Source: 2004 AACS.

R 325.1945
Source: 1997 AACS.

R 325.1947
Source: 1997 AACS.

PART 6. FOOD SERVICE

R 325.1951
Source: 2004 AACS.

R 325.1952
Source: 2004 AACS.

R 325.1953
Source: 2004 AACS.

R 325.1954
Source: 2004 AACS.

R 325.1957
Source: 1997 AACS.

R 325.1959
Source: 1997 AACS.

PART 7. BUILDINGS AND GROUNDS

R 325.1961
Source: 2004 AACS.

R 325.1962
Source: 2004 AACS.

R 325.1963
Source: 2004 AACS.

R 325.1964
Source: 2004 AACS.

R 325.1965
Source: 2004 AACS.

R 325.1966

Source: 2004 AACS.

R 325.1967
Source: 2004 AACS.

R 325.1968
Source: 2004 AACS.

R 325.1969
Source: 2004 AACS.

R 325.1970
Source: 2004 AACS.

R 325.1971
Source: 2004 AACS.

R 325.1972
Source: 2004 AACS.

R 325.1973
Source: 2004 AACS.

R 325.1974
Source: 2004 AACS.

R 325.1975
Source: 2004 AACS.

R 325.1976
Source: 2004 AACS.

R325.1977
Source: 2004 AACS.

R 325.1978
Source: 2004 AACS.

R 325.1979
Source: 2004 AACS.

R 325.1980
Source: 2004 AACS.

PART 8. EMERGENCY PROCEDURES

R 325.1981
Source: 2004 AACS.

R 325.1982
Source: 1997 AACS.

R 325.1983
Source: 1997 AACS.

R 325.1984

Source: 1997 AACS.

R 325.1985
Source: 1997 AACS.

R 325.1986
Source: 1997 AACS.

R 325.1991
Source: 1997 AACS.

R 325.1993
Source: 1997 AACS.

R 325.1995
Source: 1997 AACS.

R 325.1997
Source: 1997 AACS.

R 325.2001
Source: 1997 AACS.

R 325.2002
Source: 1997 AACS.

R 325.2004
Source: 1997 AACS.

R 325.2005
Source: 1997 AACS.

R 325.2007
Source: 1997 AACS.

R 325.2011
Source: 1997 AACS.

R 325.2012
Source: 1997 AACS.

R 325.2013
Source: 1997 AACS.

R 325.2014
Source: 1997 AACS.

R 325.2015
Source: 1997 AACS.

R 325.2016
Source: 1997 AACS.

R 325.2017
Source: 1997 AACS.

R 325.2018
Source: 1997 AACS.

R 325.2019
Source: 1997 AACS.

R 325.2020
Source: 1997 AACS.

R 325.2021
Source: 1997 AACS.

R 325.2022
Source: 1997 AACS.

R 325.2023
Source: 1997 AACS.

R 325.2024
Source: 1997 AACS.

R 325.2025
Source: 1997 AACS.

R 325.2026
Source: 1997 AACS.

R 325.2027
Source: 1997 AACS.

R 325.2028
Source: 1997 AACS.

R 325.2029
Source: 1997 AACS.

R 325.2031
Source: 1997 AACS.

R 325.2032
Source: 1997 AACS.

R 325.2033
Source: 1997 AACS.

R 325.2034
Source: 1997 AACS.

R 325.2035
Source: 1997 AACS.

R 325.2036
Source: 1997 AACS.

R 325.2037
Source: 1997 AACS.

R 325.2038
Source: 1997 AACS.

R 325.2041
Source: 1997 AACS.

R 325.2051
Source: 1997 AACS.

R 325.2052
Source: 1997 AACS.

R 325.2053
Source: 1997 AACS.

R 325.2055
Source: 1997 AACS.

R 325.2057
Source: 1997 AACS.

R 325.2059
Source: 1997 AACS.

R 325.2061
Source: 1997 AACS.

R 325.2062
Source: 1997 AACS.

R 325.2064
Source: 1997 AACS.

R 325.2065
Source: 1997 AACS.

R 325.2066
Source: 1997 AACS.

R 325.2068
Source: 1997 AACS.

R 325.2071
Source: 1997 AACS.

R 325.2072
Source: 1997 AACS.

R 325.2073
Source: 1997 AACS.

R 325.2074
Source: 1997 AACS.

R 325.2075

Source: 1997 AACS.

R 325.2081
Source: 1997 AACS.

R 325.2082
Source: 1997 AACS.

R 325.2083
Source: 1997 AACS.

R 325.2084
Source: 1997 AACS.

R 325.2085
Source: 1997 AACS.

R 325.2091
Source: 1997 AACS.

R 325.2092
Source: 1997 AACS.

R 325.2093
Source: 1997 AACS.

R 325.2094
Source: 1997 AACS.

R 325.2095
Source: 1997 AACS.

R 325.2096
Source: 1997 AACS.

R 325.2097
Source: 1997 AACS.

DEPARTMENT OF COMMUNITY HEALTH

BUREAU OF ENVIRONMENTAL AND OCCUPATIONAL HEALTH

PUBLIC BATHING BEACHES

R 325.2101
Source: 1995 AACS.

R 325.2102
Source: 1995 AACS.

R 325.2103
Source: 1995 AACS.

DEPARTMENT OF ENVIRONMENTAL QUALITY

ENVIRONMENTAL AND OCCUPATIONAL HEALTH SERVICES ADMINISTRATION

PUBLIC SWIMMING POOLS

PART 1. GENERAL PROVISIONS

R 325.2111
Source: 2001 AACS.

R 325.2113
Source: 2001 AACS.

R 325.2113a
Source: 2001 AACS.

R 325.2114
Source: 2001 AACS.

R 325.2115
Source: 2001 AACS.

R 325.2116
Source: 2001 AACS.

R 325.2117
Source: 2001 AACS.

R 325.2118
Source: 2001 AACS.

R 325.2118a
Source: 2001 AACS.

R 325.2118d
Source: 2001 AACS.

PART 2. CONSTRUCTION

R 325.2121
Source: 2001 AACS.

R 325.2122
Source: 2001 AACS.

R 325.2123
Source: 2001 AACS.

R 325.2124
Source: 2001 AACS.

R 325.2125
Source: 2001 AACS.

R 325.2126
Source: 2001 AACS.

R 325.2127
Source: 2001 AACS.

R 325.2128
Source: 2001 AACS.

R 325.2129
Source: 2001 AACS.

R 325.2129a
Source: 2001 AACS.

R 325.2131
Source: 2001 AACS.

R 325.2132
Source: 2001 AACS.

R 325.2133
Source: 2001 AACS.

R 325.2134
Source: 2001 AACS.

R 325.2135
Source: 2001 AACS.

R 325.2136
Source: 2001 AACS.

R 325.2137
Source: 2001 AACS.

R 325.2138
Source: 2001 AACS.

R 325.2141
Source: 2001 AACS.

R 325.2142
Source: 2001 AACS.

R 325.2143
Source: 2001 AACS.

R 325.2143a
Source: 2001 AACS.

R 325.2144
Source: 2001 AACS.

R 325.2145
Source: 2001 AACS.

R 325.2146
Source: 2001 AACS.

R 325.2151
Source: 2001 AACS.

R 325.2152
Source: 2001 AACS.

R 325.2153
Source: 2001 AACS.

R 325.2154
Source: 2001 AACS.

R 325.2155
Source: 2001 AACS.

R 325.2156
Source: 2001 AACS.

R 325.2157
Source: 2001 AACS.

R 325.2158
Source: 2001 AACS.

R 325.2159
Source: 2001 AACS.

R 325.2161
Source: 2001 AACS.

R 325.2163
Source: 2001 AACS.

R 325.2165
Source: 2001 AACS.

R 325.2171
Source: 2001 AACS.

R 325.2174
Source: 2001 AACS.

R 325.2175
Source: 2001 AACS.

R 325.2176
Source: 2001 AACS.

R 325.2178
Source: 2001 AACS.

R 325.2179
Source: 2001 AACS.

R 325.2181
Source: 2001 AACS.

R 325.2182
Source: 2001 AACS.

R 325.2183
Source: 2001 AACS.

R 325.2184
Source: 2001 AACS.

PART 3. OPERATION AND USE

R 325.2191
Source: 2001 AACS.

R 325.2192
Source: 2001 AACS.

R 325.2193
Source: 2001 AACS.

R 325.2194
Source: 2001 AACS.

R 325.2194a
Source: 2001 AACS.

R 325.2195
Source: 2001 AACS.

R 325.2196
Source: 2001 AACS.

R 325.2197
Source: 2001 AACS.

R 325.2198
Source: 2001 AACS.

R 325.2199
Source: 2001 AACS.

DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

OFFICE OF DIRECTOR

AMBULANCES

R 325.2201
Source: 1997 AACS.

R 325.2202
Source: 1997 AACS.

R 325.2203
Source: 1997 AACS.

R 325.2204
Source: 1997 AACS.

R 325.2205
Source: 1997 AACS.

R 325.2206
Source: 1997 AACS.

R 325.2207
Source: 1997 AACS.

R 325.2208
Source: 1997 AACS.

BUREAU OF HEALTH CARE ADMINISTRATION

ADVANCED EMERGENCY MEDICAL SERVICES

R 325.2211
Source: 1997 AACS.

R 325.2221
Source: 1997 AACS.

R 325.2222
Source: 1997 AACS.

R 325.2223
Source: 1997 AACS.

R 325.2224
Source: 1997 AACS.

R 325.2225
Source: 1997 AACS.

R 325.2226
Source: 1997 AACS.

R 325.2227
Source: 1997 AACS.

R 325.2228
Source: 1997 AACS.

R 325.2231
Source: 1997 AACS.

R 325.2232
Source: 1997 AACS.

R 325.2233
Source: 1997 AACS.

R 325.2234
Source: 1997 AACS.

R 325.2241
Source: 1997 AACS.

R 325.2242
Source: 1997 AACS.

R 325.2243
Source: 1997 AACS.

R 325.2244
Source: 1997 AACS.

R 325.2245
Source: 1997 AACS.

R 325.2246
Source: 1997 AACS.

DEPARTMENT OF COMMUNITY HEALTH

BUREAU OF LABORATORIES

CLINICAL LABORATORIES

R 325.2301 Rescinded.
History: 1954 ACS 61, Eff. Feb. 16, 1970; 1979 AC; 2015 MR 20, Eff. Nov. 10, 2015.
Editor's Note: MCL 325.81 through 325.92 was repealed effective September 30, 1978 by 368 PA 1978

R 325.2302 Rescinded.
History: 1954 ACS 61, Eff. Feb. 16, 1970; 1979 AC; 2015 MR 20, Eff. Nov. 10, 2015.

R 325.2311 Rescinded.
History: 1954 ACS 61, Eff. Feb. 16, 1970; 1979 AC; 2015 MR 20, Eff. Nov. 10, 2015.

R 325.2315 Rescinded.
History: 1954 ACS 61, Eff. Feb. 16, 1970; 1979 AC; 2015 MR 20, Eff. Nov. 10, 2015.

R 325.2319 Rescinded.
History: 1954 ACS 68, Eff. June 10, 1971; 1979 AC; 2015 MR 20, Eff. Nov. 10, 2015.

R 325.2321 Rescinded.
History: 1954 ACS 61, Eff. Feb. 16, 1970; 1979 AC; 2015 MR 20, Eff. Nov. 10, 2015.

R 325.2322 Rescinded.
History: 1954 ACS 61, Eff. Feb. 16, 1970; 1979 AC; 2015 MR 20, Eff. Nov. 10, 2015.

R 325.2323 Rescinded.
History: 1954 ACS 61, Eff. Feb. 16, 1970; 1979 AC; 2015 MR 20, Eff. Nov. 10, 2015.

R 325.2324 Rescinded.
History: 1954 ACS 61, Eff. Feb. 16, 1970; 1979 AC; 2015 MR 20, Eff. Nov. 10, 2015.

R 325.2325 Rescinded.
History: 1954 ACS 61, Eff. Feb. 16, 1970; 1979 AC; 2015 MR 20, Eff. Nov. 10, 2015.

R 325.2326 Rescinded.
History: 1954 ACS 61, Eff. Feb. 16, 1970; 1979 AC; 2015 MR 20, Eff. Nov. 10, 2015.

R 325.2327 Rescinded.
History: 1954 ACS 61, Eff. Feb. 16, 1970; 1979 AC; 2015 MR 20, Eff. Nov. 10, 2015.

R 325.2331 Rescinded.
History: 1954 ACS 61, Eff. Feb. 16, 1970; 1979 AC; 2015 MR 20, Eff. Nov. 10, 2015.

R 325.2332 Rescinded.
History: 1954 ACS 61, Eff. Feb. 16, 1970; 1979 AC; 2015 MR 20, Eff. Nov. 10, 2015.

R 325.2333 Rescinded.
History: 1954 ACS 61, Eff. Feb. 16, 1970; 1979 AC; 2015 MR 20, Eff. Nov. 10, 2015.

R 325.2334 Rescinded.
History: 1954 ACS 61, Eff. Feb. 16, 1970; 1979 AC; 2015 MR 20, Eff. Nov. 10, 2015.

R 325.2335 Rescinded.
History: 1954 ACS 61, Eff. Feb. 16, 1970; 1979 AC; 2015 MR 20, Eff. Nov. 10, 2015.

R 325.2336 Rescinded.
History: 1954 ACS 61, Eff. Feb. 16, 1970; 1979 AC; 2015 MR 20, Eff. Nov. 10, 2015.

R 325.2337 Rescinded.
History: 1954 ACS 61, Eff. Feb. 16, 1970; 1979 AC; 2015 MR 20, Eff. Nov. 10, 2015.

R 325.2338 Rescinded.
History: 1954 ACS 61, Eff. Feb. 16, 1970; 1979 AC; 2015 MR 20, Eff. Nov. 10, 2015.

R 325.2339 Rescinded.
History: 1954 ACS 61, Eff. Feb. 16, 1970; 1979 AC; 2015 MR 20, Eff. Nov. 10, 2015.

R 325.2340 Rescinded.
History: 1954 ACS 61, Eff. Feb. 16, 1970; 1979 AC; 2015 MR 20, Eff. Nov. 10, 2015.

R 325.2341 Rescinded.
History: 1954 ACS 61, Eff. Feb. 16, 1970; 1979 AC; 2015 MR 20, Eff. Nov. 10, 2015.

R 325.2342 Rescinded.
History: 1954 ACS 61, Eff. Feb. 16, 1970; 1979 AC; 2015 MR 20, Eff. Nov. 10, 2015.

R 325.2343 Rescinded.
History: 1954 ACS 61, Eff. Feb. 16, 1970; 1979 AC; 2015 MR 20, Eff. Nov. 10, 2015.

R 325.2344 Rescinded.
History: 1954 ACS 61, Eff. Feb. 16, 1970; 1979 AC; 2015 MR 20, Eff. Nov. 10, 2015.

R 325.2351 Rescinded.
History: 1954 ACS 61, Eff. Feb. 16, 1970; 1979 AC; 2015 MR 20, Eff. Nov. 10, 2015.

R 325.2352 Rescinded.
History: 1954 ACS 61, Eff. Feb. 16, 1970; 1979 AC; 2015 MR 20, Eff. Nov. 10, 2015.

R 325.2353 Rescinded.
History: 1954 ACS 61, Eff. Feb. 16, 1970; 1954 ACS 68, Eff. June 10, 1971; 1979 AC; 2015 MR 20, Eff. Nov. 10, 2015.

R 325.2354 Rescinded.
History: 1954 ACS 68, Eff. June 10, 1971; 1979 AC2015 MR 20, Eff. Nov. 10, 2015.

R 325.2355 Rescinded.
History: 1954 ACS 68, Eff. June 10, 1971; 1979 AC; 2015 MR 20, Eff. Nov. 10, 2015.

R 325.2361 Rescinded.
History: 1954 ACS 68, Eff. June 10, 1971; 1979 AC; 2015 MR 20, Eff. Nov. 10, 2015.

R 325.2362 Rescinded.
History: 1954 ACS 61, Eff. Feb. 16, 1970; 1979 AC; 2015 MR 20, Eff. Nov. 10, 2015.

R 325.2363 Rescinded.
History: 1954 ACS 61, Eff. Feb. 16, 1970; 1979 AC; 2015 MR 20, Eff. Nov. 10, 2015.

R 325.2364 Rescinded.
History: 1954 ACS 61, Eff. Feb. 16, 1970; 1979 AC; 2015 MR 20, Eff. Nov. 10, 2015.

R 325.2365 Rescinded.
History: 1954 ACS 61, Eff. Feb. 16, 1970; 1979 AC; 2015 MR 20, Eff. Nov. 10, 2015.

R 325.2366 Rescinded.
History: 1954 ACS 61, Eff. Feb. 16, 1970; 1979 AC; 2015 MR 20, Eff. Nov. 10, 2015.

R 325.2367 Rescinded.
History: 1954 ACS 61, Eff. Feb. 16, 1970; 1979 AC; 2015 MR 20, Eff. Nov. 10, 2015.

R 325.2368 Rescinded.
History: 1954 ACS 61, Eff. Feb. 16, 1970; 1979 AC; 2015 MR 20, Eff. Nov. 10, 2015.

R 325.2369 Rescinded.
History: 1954 ACS 61, Eff. Feb. 16, 1970; 1979 AC; 2015 MR 20, Eff. Nov. 10, 2015.

DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

DIRECTOR'S OFFICE

OCCUPATIONAL HEALTH STANDARDS

R 325.2401
Source: 2003 AACS.

R 325.2402
Source: 2003 AACS.

R 325.2403
Source: 2003 AACS.

R 325.2404
Source: 2003 AACS.

R 325.2405
Source: 2003 AACS.

R 325.2410
Source: 2003 AACS.

R 325.2411
Source: 2003 AACS.

R 325.2412
Source: 2003 AACS.

R 325.2413

Source: 2003 AACS.

R 325.2414
Source: 2003 AACS.

R 325.2415
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R 325.2416
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R 325.2417
Source: 2003 AACS.

R 325.2418
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R 325.2419
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R 325.2421
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R 325.2422
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R 325.2424
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R 325.2429
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R 325.2430
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R 325.2431
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R 325.2434
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R 325.2435
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R 325.2436
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R 325.2437
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R 325.2438
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R 325.2439
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R 325.2440
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R 325.2441
Source: 2003 AACS.

R 325.2442
Source: 2003 AACS.

R 325.2442a
Source: 2003 AACS.

R 325.2442b
Source: 2003 AACS.

R 325.2442c
Source: 2003 AACS.

R 325.2443
Source: 2003 AACS.

R 325.2444
Source: 2003 AACS.

R 325.2445
Source: 2003 AACS.

R 325.2446
Source: 2003 AACS.

R 325.2447
Source: 2003 AACS.

R 325.2448
Source: 2003 AACS.

DEPARTMENT OF ENVIRONMENTAL QUALITY

DIVISION OF WATER AND RADIOLOGICAL PROTECTION

TELECOMMUNICATIONS INDUSTRY

R 325.2491
Source: 1979 AC.

R 325.2492
Source: 1979 AC.

R 325.2493
Source: 1979 AC.

DEPARTMENT OF AGRICULTURE

FOOD SERVICE SANITATION

R 325.2501
Source: 1997 AACS.

R 325.2502
Source: 1997 AACS.

R 325.2503
Source: 1997 AACS.

R 325.2504
Source: 1997 AACS.

R 325.2505
Source: 1997 AACS.

DEPARTMENT OF ENVIRONMENTAL QUALITY

DRINKING WATER AND RADIOLOGICAL PROTECTION DIVISION

MARINA FACILITIES

R 325.2581
Source: 1979 AC.

R 325.2583
Source: 1979 AC.

R 325.2584
Source: 1979 AC.

R 325.2586
Source: 1979 AC.

R 325.2587
Source: 1979 AC.

R 325.2588
Source: 1979 AC.

R 325.2589
Source: 1979 AC.

R 325.2590
Source: 1979 AC.

R 325.2591
Source: 1979 AC.

DEPARTMENT OF COMMUNITY HEALTH

OFFICE OF THE DIRECTOR

MERCURY LEVELS IN FISH FROM MICHIGAN WATERS

R 325.2601
Source: 1997 AACS.

R 325.2602
Source: 1997 AACS.

R 325.2603
Source: 1997 AACS.

R 325.2604

Source: 1997 AACS.

R 325.2605
Source: 1997 AACS.

DEPARTMENT OF STATE POLICE

SPECIAL OPERATIONS DIVISION

TESTS FOR BREATH ALCOHOL

R 325.2651
Source: 2007 AACS.

R 325.2652
Source: 2010 AACS.

R 325.2653
Source: 2010 AACS.

R 325.2654
Source: 2007 AACS.

R 325.2655
Source: 2007 AACS.

R 325.2656
Source: 1994 AACS.

R 325.2657
Source: 1997 AACS.

R 325.2658
Source: 2007 AACS.

R 325.2659
Source: 2005 AACS.

FORENSIC SCIENCE DIVISION
ALCOHOL AND DRUG TESTING OF BIOLOGICAL AND NONBIOLOGICAL SPECIMENS

R 325.2671
Source: 2005 AACS.

R 325.2672
Source: 2005 AACS.

R 325.2673
Source: 2011 AACS.

R 325.2674
Source: 2005 AACS.

R 325.2675
Source: 2011 AACS.

R 325.2676
Source: 1997 AACS.

R 325.2677
Source: 1997 AACS.

DEPARTMENT OF ENVIRONMENTAL QUALITY

BUREAU OF ENVIRONMENTAL AND OCCUPATIONAL HEALTH

SOLID WASTE DISPOSAL

R 325.2701
Source: 1997 AACS.

R 325.2702
Source: 1997 AACS.

R 325.2721
Source: 1997 AACS.

R 325.2722
Source: 1997 AACS.

R 325.2723
Source: 1997 AACS.

R 325.2731
Source: 1997 AACS.

R 325.2732
Source: 1997 AACS.

R 325.2733
Source: 1997 AACS.

R 325.2734
Source: 1997 AACS.

R 325.2735
Source: 1997 AACS.

R 325.2741
Source: 1997 AACS.

R 325.2742
Source: 1997 AACS.

R 325.2743
Source: 1997 AACS.

R 325.2744
Source: 1997 AACS.

R 325.2745
Source: 1997 AACS.

R 325.2746
Source: 1997 AACS.

R 325.2747
Source: 1997 AACS.

R 325.2749
Source: 1997 AACS.

R 325.2751
Source: 1997 AACS.

R 325.2752
Source: 1997 AACS.

R 325.2753
Source: 1997 AACS.

R 325.2754
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R 325.2756
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R 325.2757
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R 325.2758
Source: 1997 AACS.

R 325.2759
Source: 1997 AACS.

R 325.2760
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R 325.2761
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R 325.2762
Source: 1997 AACS.

R 325.2763
Source: 1997 AACS.

R 325.2764
Source: 1997 AACS.

R 325.2765
Source: 1997 AACS.

R 325.2766
Source: 1997 AACS.

R 325.2767

Source: 1997 AACS.

R 325.2671
Source: 2005 AACS.

R 325.2672
Source: 2005 AACS.

R 325.2673
Source: 2005 AACS.

R 325.2674
Source: 2005 AACS.

R 325.2775
Source: 1997 AACS.

R 325.2776
Source: 1997 AACS.

R 325.2777
Source: 1997 AACS.

R 325.2778
Source: 1997 AACS.

R 325.2781
Source: 1997 AACS.

R 325.2782
Source: 1997 AACS.

R 325.2783
Source: 1997 AACS.

R 325.2784
Source: 1997 AACS.

R 325.2785
Source: 1997 AACS.

R 325.2786
Source: 1997 AACS.

R 325.2787
Source: 1997 AACS.

R 325.2788
Source: 1997 AACS.

R 325.2789
Source: 1997 AACS.

DEPARTMENT OF COMMUNITY HEALTH

COMMUNITY PUBLIC HEALTH AGENCY

BLOOD BANKS

R 325.2941
Source: 1997 AACS.

R 325.2942
Source: 1997 AACS.

R 325.2943
Source: 1997 AACS.

R 325.2944
Source: 1997 AACS.

R 325.2945
Source: 1997 AACS.

DEPARTMENT OF COMMUNITY HEALTH

OFFICE OF THE DIRECTOR

CERTIFICATION OF SPECIAL SERVICES IN HOSPITALS

R 325.3001
Source: 1997 AACS.

R 325.3051
Source: 1997 AACS.

R 325.3053
Source: 1997 AACS.

R 325.3055
Source: 1997 AACS.

R 325.3057
Source: 1997 AACS.

R 325.3058
Source: 1997 AACS.

R 325.3061
Source: 1997 AACS.

R 325.3063
Source: 1997 AACS.

R 325.3064
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R 325.3065
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R 325.3066
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R 325.3067
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R 325.3068
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R 325.3069
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R 325.3070
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R 325.3071
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R 325.3073
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R 325.3074
Source: 1997 AACS.

R 325.3075
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R 325.3077
Source: 1997 AACS.

R 325.3078
Source: 1997 AACS.

R 325.3079
Source: 1997 AACS.

R 325.3080
Source: 1997 AACS.

R 325.3082
Source: 1997 AACS.

R 325.3084
Source: 1997 AACS.

R 325.3085
Source: 1997 AACS.

R 325.3087
Source: 1997 AACS.

R 325.3088
Source: 1997 AACS.

R 325.3089
Source: 1997 AACS.

R 325.3091
Source: 1997 AACS.

R 325.3101
Source: 1997 AACS.

R 325.3103
Source: 1997 AACS.

R 325.3105
Source: 1997 AACS.

R 325.3107
Source: 1997 AACS.

R 325.3108
Source: 1997 AACS.

R 325.3110
Source: 1997 AACS.

R 325.3112
Source: 1997 AACS.

R 325.3113
Source: 1997 AACS.

R 325.3114
Source: 1997 AACS.

R 325.3116
Source: 1997 AACS.

R 325.3117
Source: 1997 AACS.

R 325.3118
Source: 1997 AACS.

R 325.3119
Source: 1997 AACS.

R 325.3121
Source: 1997 AACS.

R 325.3123
Source: 1997 AACS.

R 325.3124
Source: 1997 AACS.

R 325.3125
Source: 1997 AACS.

R 325.3127
Source: 1997 AACS.

R 325.3128

Source: 1997 AACS.

R 325.3129
Source: 1997 AACS.

R 325.3131
Source: 1997 AACS.

R 325.3132
Source: 1997 AACS.

R 325.3134
Source: 1997 AACS.

R 325.3136
Source: 1997 AACS.

R 325.3138
Source: 1997 AACS.

R 325.3139
Source: 1997 AACS.

R 325.3140
Source: 1997 AACS.

R 325.3141
Source: 1997 AACS.

R 325.3142
Source: 1997 AACS.

R 325.3144
Source: 1997 AACS.

R 325.3151
Source: 1997 AACS.

R 325.3153
Source: 1997 AACS.

R 325.3155
Source: 1997 AACS.

R 325.3157
Source: 1997 AACS.

R 325.3158
Source: 1997 AACS.

R 325.3159
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R 325.3160
Source: 1997 AACS.

R 325.3161
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R 325.3162
Source: 1997 AACS.

R 325.3165
Source: 1997 AACS.

R 325.3166
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R 325.3167
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R 325.3168
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R 325.3169
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R 325.3170
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R 325.3171
Source: 1997 AACS.

R 325.3172
Source: 1997 AACS.

R 325.3173
Source: 1997 AACS.

R 325.3174
Source: 1997 AACS.

R 325.3176
Source: 1997 AACS.

R 325.3178
Source: 1997 AACS.

R 325.3181
Source: 1997 AACS.

R 325.3182
Source: 1997 AACS.

R 325.3184
Source: 1997 AACS.

R 325.3185
Source: 1997 AACS.

R 325.3187
Source: 1997 AACS.

OFFICE OF VITAL AND HEALTH STATISTICS

COMPLETION, FILING, AND REGISTRATION OF VITAL RECORDS DOCUMENTS

R 325.3201
Source: 1981 AACS.

R 325.3202
Source: 1981 AACS.

R 325.3203
Source: 1981 AACS.

R 325.3204
Source: 1981 AACS.

R 325.3205
Source: 1981 AACS.

R 325.3206
Source: 1981 AACS.

R 325.3207
Source: 1981 AACS.

R 325.3208
Source: 1981 AACS.

R 325.3209
Source: 1981 AACS.

R 325.3210
Source: 1981 AACS.

R 325.3211
Source: 1981 AACS.

R 325.3212
Source: 1981 AACS.

R 325.3213
Source: 1981 AACS.

R 325.3214
Source: 1981 AACS.

R 325.3215
Source: 1981 AACS.

R 325.3216
Source: 1981 AACS.

R 325.3217
Source: 1981 AACS.

R 325.3218

Source: 1981 AACS.

R 325.3219
Source: 1981 AACS.

R 325.3220
Source: 1981 AACS.

R 325.3221
Source: 1981 AACS.

VITAL RECORDS INSPECTION AND DISCLOSURE

R 325.3231
Source: 1983 AACS.

R 325.3232
Source: 1983 AACS.

R 325.3233
Source: 1983 AACS.

R 325.3234
Source: 1983 AACS.

R 325.3235
Source: 1983 AACS.

R 325.3236
Source: 1983 AACS.

AMENDMENTS TO VITAL RECORDS

R 325.3251
Source: 1981 AACS.

R 325.3252
Source: 1981 AACS.

R 325.3253
Source: 1981 AACS.

R 325.3254
Source: 1981 AACS.

R 325.3255
Source: 1981 AACS.

R 325.3256
Source: 1981 AACS.

R 325.3257
Source: 1981 AACS.

R 325.3258
Source: 1981 AACS.

R 325.3259
Source: 1981 AACS.

R 325.3260
Source: 1981 AACS.

R 325.3261
Source: 1981 AACS.

R 325.3262
Source: 1981 AACS.

R 325.3263
Source: 1981 AACS.

R 325.3264
Source: 1981 AACS.

R 325.3265
Source: 1981 AACS.

R 325.3266
Source: 1981 AACS.

R 325.3267
Source: 1981 AACS.

DIVISION OF CHILD HEALTH

HEARING SCREENING AND TESTS

R 325.3271
Source: 2004 AACS.

R 325.3272
Source: 2004 AACS.

R 325.3273
Source: 2004 AACS.

R 325.3274
Source: 2004 AACS.

R 325.3275
Source: 2004 AACS.

R 325.3276
Source: 2004 AACS.

DEPARTMENT OF AGRICULTURE

BUREAU OF ENVIRONMENTAL AND OCCUPATIONAL HEALTH

MOBILE HOME PARKS AND SEASONAL MOBILE HOME PARKS

PART 1. GENERAL PROVISIONS

R 325.3311
Source: 1984 AACS.

R 325.3312
Source: 1980 AACS.

R 325.3313
Source: 1980 AACS.

R 325.3314
Source: 1984 AACS.

PART 2. WATER SUPPLY SYSTEMS

R 325.3321
Source: 1984 AACS.

PART 3. SEWAGE COLLECTION AND DISPOSAL SYSTEMS

R 325.3331
Source: 1984 AACS.

R 325.3332
Source: 1984 AACS.

R 325.3333
Source: 1980 AACS.

R 325.3334
Source: 1984 AACS.

R 325.3335
Source: 1984 AACS.

PART 4. DRAINAGE

R 325.3341
Source: 1984 AACS.

R 325.3342
Source: 1984 AACS.

R 325.3343
Source: 1984 AACS.

R 325.3344
Source: 1980 AACS.

R 325.3345
Source: 1980 AACS.

R 325.3346
Source: 1980 AACS.

R 325.3347
Source: 2008 AACS.

R 325.3348

Source: 2008 AACS.

R 325.3349
Source: 2008 AACS.

PART 5. GARBAGE AND RUBBISH STORAGE AND DISPOSAL

R 325.3351
Source: 2008 AACS.

R 325.3352
Source: 1984 AACS.

R 325.3353
Source: 2008 AACS.

R 325.3354
Source: 1984 AACS.

PART 6. INSECT AND RODENT CONTROL

R 325.3361
Source: 2008 AACS.

R 325.3362
Source: 1984 AACS.

R 325.3363
Source: 2008 AACS.

PART 7. GENERAL OPERATION, MAINTENANCE, AND SAFETY

R 325.3371
Source: 2008 AACS.

R 325.3372
Source: 2008 AACS.

R 325.3373
Source: 1984 AACS.

R 325.3374
Source: 1984 AACS.

PART 8. COORDINATION OF APPROVALS FOR CONSTRUCTION

R 325.3381
Source: 1984 AACS.

R 325.3382
Source: 1984 AACS.

R 325.3383
Source: 1980 AACS.

R 325.3384
Source: 1984 AACS.

R 325.3385
Source: 1984 AACS.

PART 9. CERTIFICATION OF COMPLIANCE

R 325.3391
Source: 1984 AACS.

R 325.3392
Source: 1984 AACS.

R 325.3393
Source: 1984 AACS.

DEPARTMENT OF COMMUNITY HEALTH
BUREAU OF DISEASE CONTROL AND LABORATORY SERVICES
VENEREAL DISEASE

R 325.3401
Source: 1997 AACS.

R 325.3402
Source: 1997 AACS.

R 325.3403
Source: 1997 AACS.

R 325.3404
Source: 1997 AACS.

R 325.3405
Source: 1997 AACS.

R 325.3406
Source: 1997 AACS.

R 325.3407
Source: 1997 AACS.

R 325.3408
Source: 1997 AACS.

R 325.3409
Source: 1997 AACS.

R 325.3410
Source: 1981 AACS.

DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES
OCCUPATIONAL HEALTH STANDARDS COMMISSION
EMPLOYEE MEDICAL RECORDS AND TRADE SECRETS

R 325.3451
Source: 1983 AACS.

R 325.3451a
Source: 2014 AACS.

R 325.3452
Source: 2014 AACS.

R 325.3453
Source: 2014 AACS.

R 325.3454
Source: 1983 AACS.

R 325.3455
Source: 1983 AACS.

R 325.3456
Source: 1993 AACS.

R 325.3457
Source: 2014 AACS.

R 325.3458
Source: 1983 AACS.

R 325.3459
Source: 1993 AACS.

R 325.3460
Source: 1993 AACS.

R 325.3461
Source: 1993 AACS.

R 325.3462
Source: 1983 AACS.

R 325.3463
Source: 1983 AACS.

R 325.3464
Source: 1993 AACS.

R 325.3465
Source: 1983 AACS.

R 325.3466
Source: 2014 AACS.

R 325.3467
Source: 1993 AACS.

R 325.3468
Source: 1983 AACS.

R 325.3469
Source: 1983 AACS.

R 325.3470
Source: 1983 AACS.

R 325.3471
Source: 1993 AACS.

R 325.3472
Source: 2014 AACS.
R 325.3472a
Source: 2014 AACS.

R 325.3473
Source: 1993 AACS.

R 325.3474
Source: 1983 AACS.

R 325.3475
Source: 2014 AACS.

R 325.3476
Source: 2014 AACS.

DEPARTMENT OF COMMUNITY HEALTH

BUREAU OF DISEASE CONTROL AND LABORATORY SERVICES

IMMUNIZATIONS IN SCHOOLS, DAY CARE CENTERS, AND CAMPING PROGRAMS

R 325.3501
Source: 1997 AACS.

R 325.3502
Source: 1997 AACS.

R 325.3503
Source: 1997 AACS.

R 325.3504
Source: 1997 AACS.

R 325.3505
Source: 1997 AACS.

R 325.3506
Source: 1997 AACS.

R 325.3507
Source: 1997 AACS.

R 325.3508
Source: 1997 AACS.

R 325.3509
Source: 1997 AACS.

R 325.3510
Source: 1997 AACS.

R 325.3511
Source: 1997 AACS.

R 325.3512
Source: 1997 AACS.

R 325.3513
Source: 1997 AACS.

DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES
BUREAU OF ENVIRONMENTAL AND OCCUPATIONAL HEALTH
ASBESTOS CONTRACTOR LICENSING

R 325.3551
Source: 1988 AACS.

R 325.3553
Source: 1988 AACS.

R 325.3555
Source: 1988 AACS.

R 325.3557
Source: 1988 AACS.

R 325.3559
Source: 1988 AACS.

R 325.3561
Source: 1988 AACS.

R 325.3563
Source: 1988 AACS.

R 325.3565
Source: 1988 AACS.

R 325.3567
Source: 1988 AACS.

R 325.3569
Source: 1988 AACS.

R 325.3571
Source: 1988 AACS.

AGRICULTURAL LABOR CAMPS

R 325.3601
Source: 1989 AACS.

R 325.3603
Source: 1989 AACS.

R 325.3605
Source: 1989 AACS.

R 325.3607
Source: 1989 AACS.

R 325.3609
Source: 1989 AACS.

R 325.3611
Source: 1989 AACS.

R 325.3613
Source: 1989 AACS.

R 325.3615
Source: 1989 AACS.

R 325.3617
Source: 1989 AACS.

R 325.3619
Source: 1989 AACS.

R 325.3621
Source: 1989 AACS.

R 325.3623
Source: 1989 AACS.

R 325.3625
Source: 1989 AACS.

R 325.3627
Source: 1989 AACS.

R 325.3629
Source: 1989 AACS.

R 325.3631
Source: 1989 AACS.

R 325.3633
Source: 1989 AACS.

R 325.3635
Source: 1989 AACS.

R 325.3637
Source: 1989 AACS.

R 325.3639
Source: 1989 AACS.

R 325.3641
Source: 1989 AACS.

R 325.3643
Source: 1989 AACS.

R 325.3699
Source: 1989 AACS.

DEPARTMENT OF COMMUNITY HEALTH

OFFICE OF THE DIRECTOR

TOXIC SUBSTANCE LOAN PROGRAM

R 325.3701
Source: 1997 AACS.

R 325.3702
Source: 1997 AACS.

R 325.3703
Source: 1997 AACS.

R 325.3704
Source: 1997 AACS.

R 325.3705
Source: 1997 AACS.

R 325.3706
Source: 1997 AACS.

R 325.3707
Source: 1997 AACS.

R 325.3708
Source: 1997 AACS.

R 325.3709
Source: 1997 AACS.

DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

BUREAU OF HEALTH SYSTEMS

FREESTANDING SURGICAL OUTPATIENT FACILITIES

R 325.3801
Source: 2001 AACS.

R 325.3802
Source: 2013 AACS.

R 325.3803
Source: 2001 AACS.

R 325.3811
Source: 2001 AACS.

R 325.3812
Source: 2001 AACS.

R 325.3813
Source: 1979 AC.

R 325.3815
Source: 2013 AACS.

R 325.3816
Source: 2001 AACS.

R 325.3817
Source: 2001 AACS.

R 325.3818
Source: 2001 AACS.

R 325.3819
Source: 2001 AACS.

R 325.3820
Source: 1979 AC.

R 325.3821
Source: 1979 AC.

R 325.3822
Source: 1979 AC.

R 325.3825
Source: 1979 AC.

R 325.3826
Source: 2013 AACS.

R 325.3827
Source: 1979 AC.

R 325.3828
Source: 2001 AACS.

R 325.3831
Source: 1979 AC.

R 325.3832
Source: 2013 AACS.

R 325.3833
Source: 1979 AC.

R 325.3834
Source: 1979 AC.

R 325.3835
Source: 2001 AACS.

R 325.3836
Source: 1979 AC.

R 325.3837
Source: 2013 AACS.

R 325.3838
Source: 1979 AC.

R 325.3839

Source: 1979 AC.

R 325.3840
Source: 1979 AC.

R 325.3841
Source: 1979 AC.

R 325.3842
Source: 1979 AC.

R 325.3843
Source: 1979 AC.

R 325.3844
Source: 1979 AC.

R 325.3845
Source: 1979 AC.

R 325.3846
Source: 1979 AC.

R 325.3847
Source: 2013 AACS.

R 325.3848
Source: 1979 AC.

R 325.3851
Source: 2001 AACS.

R 325.3855
Source: 2013 AACS.

R 325.3856
Source: 2013 AACS.

R 325.3857
Source: 2013 AACS.

R 325.3858
Source: 2013 AACS.

R 325.3859
Source: 1979 AC.

R 325.3860
Source: 1979 AC.

R 325.3866
Source: 2001 AACS.

R 325.3867
Source: 2013 AACS.

R 325.3868
Source: 2001 AACS.

R 325.3868a
Source: 2013 AACS.

R 325.3869
Source: 1979 AC.

R 325.3871
Source: 1979 AC.

R 325.3872
Source: 1979 AC.

R 325.3873
Source: 1979 AC.

R 325.3874
Source: 2013 AACS.

R 325.3877
Source: 1979 AC.

OFFICE OF SUBSTANCE ABUSE SERVICES

SUBSTANCE ABUSE SERVICES PROGRAMS

R 325.4001
Source: 1997 AACS.

R 325.4002
Source: 1997 AACS.

R 325.4003
Source: 1997 AACS.

R 325.4004
Source: 1997 AACS.

R 325.4005
Source: 1997 AACS.

R 325.4006
Source: 1997 AACS.

R 325.4007
Source: 1997 AACS.

R 325.4008
Source: 1997 AACS.

R 325.4009
Source: 1997 AACS.

R 325.4010
Source: 1997 AACS.

R 325.4011
Source: 1997 AACS.

R 325.4012
Source: 1997 AACS.

R 325.4013
Source: 1997 AACS.

R 325.4014
Source: 1997 AACS.

R 325.4015
Source: 1997 AACS.

R 325.4016
Source: 1997 AACS.

R 325.4017
Source: 1997 AACS.

R 325.4018
Source: 1997 AACS.

R 325.4019
Source: 1997 AACS.

R 325.4021
Source: 1997 AACS.

R 325.4022
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R 325.4023
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R 325.4024
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R 325.4025
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R 325.4026
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R 325.4027
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R 325.4028
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R 325.4031
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R 325.4037
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R 325.4048
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R 325.4051
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R 325.4052
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R 325.4054
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R 325.4064
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R 325.4065
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R 325.4066
Source: 1997 AACS.

R 325.4067
Source: 1997 AACS.

R 325.4071
Source: 1997 AACS.

R 325.4081
Source: 1997 AACS.

R 325.4082
Source: 1997 AACS.

R 325.4083
Source: 1997 AACS.

R 325.4084
Source: 1997 AACS.

PROGRAM MATCH REQUIREMENTS

R 325.4151
Source: 1981 AACS.

R 325.4152
Source: 1981 AACS.

R 325.4153

Source: 1981 AACS.

R 325.4154
Source: 1997 AACS.

R 325.4155
Source: 1981 AACS.

R 325.4156
Source: 1981 AACS.

DEPARTMENT OF CONSUMER & INDUSTRY SERVICES

RADIATION SAFETY

SECTION

R 325.5051
Source: 1979 AC.

R 325.5074
Source: 1979 AC.

R 325.5101
Source: 1979 AC.

R 325.5102
Source: 1979 AC.

R 325.5117a
Source: 1979 AC.

R 325.5118
Source: 1979 AC.

R 325.5119
Source: 1979 AC.

R 325.5120
Source: 1979 AC.

R 325.5122
Source: 1979 AC.

R 325.5124
Source: 1979 AC.

R 325.5141
Source: 1979 AC.

R 325.5142
Source: 1979 AC.

R 325.5143
Source: 1979 AC.

R 325.5144
Source: 1979 AC.

R 325.5145
Source: 1979 AC.

R 325.5147
Source: 1979 AC.

DEPARTMENT OF CONSUMER & INDUSTRY SERVICES

RADIATION SAFETY SECTION

R 325.5181
Source: 1979 AC.

R 325.5182
Source: 1979 AC.

R 325.5183
Source: 1979 AC.

R 325.5184
Source: 1979 AC.

R 325.5185
Source: 1979 AC.

R 325.5186
Source: 1979 AC.

R 325.5187
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R 325.5188
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R 325.5189
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R 325.5191
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R 325.5192
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R 325.5195
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R 325.5196
Source: 1979 AC.

DEPARTMENT OF CONSUMER & INDUSTRY SERVICES

RADIATION SAFETY SECTION

R 325.5281
Source: 1979 AC.

R 325.5282
Source: 1979 AC.

R 325.5286
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R 325.5287
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R 325.5289
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R 325.5296
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R 325.5298
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R 325.5299
Source: 1979 AC.

R 325.5301
Source: 1979 AC.

R 325.5302
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R 325.5303
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R 325.5305
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R 325.5306
Source: 1979 AC.

R 325.5307
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R 325.5309
Source: 1979 AC.

DEPARTMENT OF COMMUNITY HEALTH

DIRECTOR'S OFFICE

BUREAU OF HEALTH SYSTEMS – RADIATION SAFETY SECTION

R 325.5311
Source: 1979 AC.

R 325.5312
Source: 1979 AC.

R 325.5315
Source: 1979 AC.

R 325.5317
Source: 1979 AC.

R 325.5321
Source: 1979 AC.

R 325.5322
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R 325.5323
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R 325.5325
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R 325.5331
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R 325.5333
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R 325.5337
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R 325.5391
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R 325.5395
Source: 1979 AC.

R 325.5396
Source: 2007 AACS.

R 325.5397
Source: 1979 AC.

R 325.5401
Source: 1979 AC.

R 325.5402
Source: 1979 AC.

R 325.5403
Source: 1979 AC.

R 325.5404
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R 325.5405
Source: 1979 AC.

R 325.5407
Source: 1979 AC.

R 325.5409
Source: 1979 AC.

R 325.5411
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R 325.5417
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R 325.5418
Source: 1979 AC.

R 325.5421
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R 325.5422
Source: 1979 AC.

R 325.5423
Source: 1979 AC.

R 325.5425
Source: 1979 AC.

DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

RADIATION SAFETY SECTION

R 325.5431
Source: 1979 AC.

R 325.5432
Source: 1979 AC.

R 325.5435
Source: 1979 AC.

R 325.5437
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R 325.5438
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R 325.5439
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R 325.5441
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R 325.5445
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R 325.5446
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R 325.5449
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R 325.5450
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R 325.5452
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R 325.5481
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R 325.5482
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R 325.5484
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R 325.54855
Source: 1979 AC.

R 325.5486
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R 325.5487
Source: 1979 AC.

R 325.5491
Source: 1979 AC.

R 325.5492
Source: 1979 AC.

R 325.5493
Source: 1979 AC.

R 325.5494
Source: 1979 AC.

R 325.5495
Source: 1979 AC.

R 325.5501
Source: 1979 AC.

R 325.5505
Source: 1979 AC.

R 325.5506
Source: 1979 AC.

R 325.5507
Source: 1979 AC.

R 325.5508
Source: 1979 AC.

R 325.5511
Source: 1979 AC.

DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

DIVISION OF RADIOLOGICAL HEALTH

IONIZING RADIATION

PART 14. MAMMOGRAPHY

GENERAL PROVISIONS

R 325.5601
Source: 2013 AACS.

R 325.5601a
Source: 2013 AACS.

R 325.5602
Source: 2013 AACS.

R 325.5603
Source: 2013 AACS.

MAMMOGRAPHY AUTHORIZATION

R 325.5605
Source: 2013 AACS.

R 325.5606
Source: 1993 AACS.

R 325.5607
Source: 2013 AACS.

R 325.5608
Source: 2013 AACS.

R 325.5609
Source: 1993 AACS.

R 325.5610
Source: 2013 AACS.

R 325.5611
Source: 2013 AACS.

R 325.5612
Source: 2013 AACS.

R 325.5613
Source: 2013 AACS.

MAMMOGRAPHY SUPERVISOR

R 325.5617
Source: 2013 AACS.

R 325.5618
Source: 2013 AACS.

R 325.5619
Source: 2013 AACS.

OPERATORS OF MAMMOGRAPHY EQUIPMENT

R 325.5621
Source: 2013 AACS.

R 325.5622
Source: 2013 AACS.

R 325.5623
Source: 2013 AACS.

R 325.5624
Source: 2013 AACS.

R 325.5625
Source: 2013 AACS.

PERSONNEL

R 325.5626
Source: 2013 AACS.

R 325.5627
Source: 2013 AACS.

R 325.5628
Source: 2013 AACS.

R 325.5629
Source: 2013 AACS.

R 325.5630
Source: 2013 AACS.

RADIATION PHYSICIST

R 325.5631
Source: 2013 AACS.

R 325.5632
Source: 2013 AACS.

R 325.5633
Source: 2013 AACS.

R 325.5634
Source: 2013 AACS.

R 325.5635
Source: 2013 AACS.

X-RAY EQUIPMENT

R 325.5637
Source: 2013 AACS.

R 325.5638
Source: 2013 AACS.

R 325.5639
Source: 2013 AACS.

R 325.5640
Source: 2013 AACS.

R 325.5641
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R 325.5649
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R 325.5650
Source: 2013 AACS.

R 325.5651
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R 325.5652
Source: 2013 AACS.

R 325.5655
Source: 2013 AACS.

R 325.5656
Source: 2013 AACS.

MEDICAL RECORDS AND MAMMOGRAPHY REPORTS

R 325.5657
Source: 2013 AACS.

QUALITY ASSURANCE

R 325.5658
Source: 2013 AACS.

QUALITY CONTROL

R 325.5659
Source: 2013 AACS.

R 325.5660
Source: 2013 AACS.

R 325.5661
Source: 2013 AACS.

R 325.5662
Source: 2013 AACS.

R 325.5663
Source: 2013 AACS.

R 325.5664
Source: 2013 AACS.

R 325.5665
Source: 2013 AACS.

R 325.5667
Source: 2013 AACS.

R 325.5668
Source: 2013 AACS.

R 325.5669
Source: 2013 AACS.

STEREOTACTIC BREAST BIOPSY

PERSONNEL

R 325.5674
Source: 2013 AACS.

R 325.5675
Source: 2013 AACS.

X-RAY EQUIPMENT

R 325.5676
Source: 2013 AACS.

R 325.5677
Source: 2013 AACS.

R 325.5678
Source: 2013 AACS.

MEDICAL RECORDS AND STEREOTACTIC BREAST BIOPSY REPORTS

R 325.5679
Source: 2013 AACS.

R 325.5681
Source: 2013 AACS.

R 325.5682
Source: 2013 AACS.

R 325.5683
Source: 2013 AACS.

QUALITY ASSURANCE

R 325.5684
Source: 2013 AACS.

R 325.5685
Source: 2013 AACS.

R 325.5686
Source: 2013 AACS.

R 325.5687
Source: 2013 AACS.

R 325.5688
Source: 2013 AACS.

R 325.5689
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R 325.5690
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R 325.5691
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R 325.5692
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R 325.5693
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R 325.5694
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R 325.5695
Source: 2013 AACS.

R 325.5696
Source: 2013 AACS.

R 325.5697
Source: 2013 AACS.

R 325.5698
Source: 2013 AACS.

PART 15. COMPUTED TOMOGRAPHY INSTALLATIONS

R 325.5701
Source: 2011 AACS.

R 325.5703
Source: 2011 AACS.

R 325.5705
Source: 2011 AACS.

R 325.5707
Source: 2011 AACS.

R 325.5709
Source: 2011 AACS.

R 325.5711
Source: 2011 AACS.

R 325.5713
Source: 2011 AACS.

R 325.5715
Source: 2011 AACS.

R 325.5717
Source: 2011 AACS.

R 325.5719
Source: 2011 AACS.

R 325.5721
Source: 2011 AACS.

DEPARTMENT OF ENVIRONMENTAL QUALITY

DRINKING WATER AND RADIOLOGICAL PROTECTION DIVISION

RADIOACTIVE MATERIAL TRANSPORTATION

R 325.5801
Source: 1997 AACS.

R 325.5802
Source: 1997 AACS.

R 325.5803
Source: 1997 AACS.

R 325.5804

Source: 1997 AACS.

R 325.5805
Source: 1997 AACS.

R 325.5806
Source: 1997 AACS.

R 325.5807
Source: 1997 AACS.

R 325.5808
Source: 1997 AACS.

R 325.5809
Source: 1997 AACS.

R 325.5810
Source: 1997 AACS.

DEPARTMENT OF ENVIRONMENTAL QUALITY

DIVISION OF WATER AND RADIOLOGICAL PROTECTION

PEACETIME NUCLEAR INCIDENTS

PART 1. DEFINITIONS

R 325.5901
Source: 2012 AACS.

R 325.5902
Source: 2012 AACS.

R 325.5903
Source: 2012 AACS.

R 325.5904
Source: 2012 AACS.

PART 2. NUCLEAR INCIDENTS AND PUBLIC INTEREST OCCURRENCES

R 325.5911
Source: 2012 AACS.

R 325.5912
Source: 2012 AACS.

R 325.5913
Source: 2012 AACS.

R 325.5914
Source: 2012 AACS.

PART 3. EMERGENCY PLANS

R 325.5921
Source: 2012 AACS.

R 325.5922
Source: 2012 AACS.

R 325.5923
Source: 2012 AACS.

R 325.5924
Source: 2012 AACS.

R 325.5925
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R 325.5926
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R 325.5927
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R 325.5930
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R 325.5931
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R 325.5932
Source: 2012 AACS.

R 325.5933
Source: 2012 AACS.

R 325.5934
Source: 2012 AACS.

BUREAU OF HEALTH CARE ADMINISTRATION

FREESTANDING SURGICAL OUTPATIENT FACILITIES DIFFERENTIATED FROM PRIVATE PRACTICE OFFICES

R 325.6001
Source: 2013 AACS.

R 325.6002
Source: 2013 AACS.

DEPARTMENT OF COMMUNITY HEALTH AND INSURANCE BUREAU

HEALTH MAINTENANCE ORGANIZATIONS

PART 1. GENERAL PROVISIONS

R 325.6101 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

Editor's Note: 368 PA 1978, "Health Maintenance Organizations", MCL 333.21001 through MCL 333.21099 was repealed effective June 29, 2000 by 252.

R 325.6105 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6110 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6115 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6120 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6125 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6130 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6135
Source: 1988 AACS.

R 325.6201
Source: 1988 AACS.

R 325.6205 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6210 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6215
Source: 1988 AACS.

R 325.6220
Source: 1988 AACS.

R 325.6225
Source: 1988 AACS.

R 325.6230 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6235 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6240 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6245 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6250
Source: 1988 AACS.

R 325.6255
Source: 1988 AACS.

R 325.6260
Source: 1988 AACS.

R 325.6265
Source: 1988 AACS.

R 325.6270 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6275 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6280
Source: 1988 AACS.

R 325.6285 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6290 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6301 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6305 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6310 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6315 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6320
Source: 1988 AACS.

R 325.6325
Source: 1988 AACS.

R 325.6330 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6335 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6340 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6345 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6350 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6355 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6360 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6365 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6401 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6405 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6410 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6415 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6420 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6425 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6430 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6501 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6505 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6510 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6515
Source: 1988 AACS.

R 325.6601 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6605 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6610 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6615 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6620 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6625 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6630 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6635 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6640 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6701 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6702 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6705
Source: 1988 AACS.

R 325.6710 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6715 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6720 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6725 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6730 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6735 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6740 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6745 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6750 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6755 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6760
Source: 1991 AACS.

R 325.6765
Source: 1991 AACS.

R 325.6770
Source: 1991 AACS.

R 325.6775
Source: 1991 AACS.

R 325.6780 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6785 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6790 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6795 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6801 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6805 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6810 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6815 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6820
Source: 1991 AACS.

R 325.6825 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6830 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6835 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6840 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6901 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6905 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6910 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6915 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6920 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6925 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6930 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6935 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6940 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6945 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6950 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6955 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6960 Rescinded.
History: 1979 AC; 1988 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.6965
Source: 1988 AACS.

DEPARTMENT OF COMMUNITY HEALTH
OFFICE OF VITAL AND HEALTH STATISTICS
DISINTERMENT—REINTERMENT

R 325.8051
Source: 1982 AACS.

R 325.8052
Source: 1982 AACS.

R 325.8053
Source: 1982 AACS.

R 325.8054
Source: 1982 AACS.

R 325.8055
Source: 1982 AACS.

R 325.8056
Source: 1982 AACS.

R 325.8057
Source: 1982 AACS.

LABORATORY AND EPIDEMIOLOGICAL SERVICES ADMINISTRATION

DISEASE SURVEILLANCE AND CONTROL

R 325.9001
Source: 1997 AACS.

R 325.9002
Source: 1997 AACS.

R 325.9003
Source: 1997 AACS.

R 325.9004
Source: 1997 AACS.

R 325.9005
Source: 1997 AACS.

R 325.9006
Source: 1997 AACS.

R 325.9007
Source: 1997 AACS.

R 325.9008
Source: 1997 AACS.

R 325.9009
Source: 1997 AACS.

R 325.9010
Source: 1997 AACS.

R 325.9011
Source: 1997 AACS.

R 325.9012
Source: 1981 AACS.

BUREAU OF LABORATORY AND EPIDEMIOLOGICAL SERVICES

DEFINITION OF "INFECTIOUS AGENT"

R 325.9031
Source: 1987 AACS.

DIVISION OF RESEARCH AND DEVELOPMENT

CHRONIC DISEASE PREVENTION AND CONTROL LIST

R 325.9041 Rescinded.
History: 1989 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

OFFICE OF THE STATE REGISTRAR AND CENTER FOR HEALTH STATISTICS

CANCER REPORTING

R 325.9050
Source: 2004 AACS.

R 325.9051
Source: 2004 AACS.

R 325.9052
Source: 2004 AACS.

R 325.9053
Source: 1985 AACS.

R 325.9054
Source: 1985 AACS.

R 325.9055
Source: 1985 AACS.

R 325.9056
Source: 1985 AACS.

R 325.9057
Source: 1985 AACS.

CENTER FOR HEALTH PROMOTION

SPINAL CORD AND TRAUMATIC BRAIN INJURY REPORTING

R 325.9061
Source: 2014 AACS.

R 325.9062
Source: 2014 AACS.

R 325.9063
Source: 2014 AACS.

R 325.9064
Source: 2014 AACS.

R 325.9065
Source: 2014 AACS.

R 325.9066
Source: 2014 AACS.

R 325.9067
Source: 2014 AACS.

BIRTH DEFECTS REPORTING

R 325.9071

Source: 2011 AACS.

R 325.9072
Source: 2011 AACS.

R 325.9073
Source: 2011 AACS.

R 325.9074
Source: 2011 AACS.

R 325.9075
Source: 1991 AACS.

R 325.9076
Source: 2011 AACS.

HEALTH LEGISLATION AND POLICY DEVELOPMENT

BLOOD LEAD ANALYSIS REPORTING

R 325.9081 Definitions.
Rule 1. (1) As used in these rules:
(a) “department” means the department of community health.
(b) "Physician/provider" means a licensed professional who provides health care services and who is authorized to request the analysis of blood specimens. For this purpose, provider may also mean the local health department.
(c) “Portable blood lead analyzer” means a point-of-care blood lead testing instrument or similar device used to test blood lead levels.
(d) “User” means a physician/provider, local health department, Head Start agency, community action agency, and other agencies or individuals who utilize portable blood lead analyzers.
(2) The term "local health department," as defined in section 1105, 1978 PA 368, MCL 333.1105, has the same meaning when used in these rules.
History: 1997 AACS; 2015 MR 9, Eff. May 7, 2015.

R 325.9082 Reportable information.
Rule 2. (1) Reportable information pertains to the analysis of blood samples submitted to clinical laboratories and the results from portable blood lead analyzers.
(2) Upon initiating a request for blood lead analysis, the physician/provider or user ordering the blood lead analysis shall collect the following information:
(a) All of the following information with respect to the individual tested:
(i) Name.
(ii) Sex
(iii) The individual’s ethnicity including either of the following:
(a) Hispanic or Latino/Latina.
(b) Not Hispanic of Latino/Latina.
(iv) The individual’s race, noting the following:
(a) American Indian or Alaska Native.
(b) Asian.
(c) Black or African American.
(d) Native Hawaiian or Other Pacific Islander.
(e) White or Caucasian.
(v) Birthdate.
(vi) Address, including county, and, to the extent available, whether the residence or property is owned or rented.
(vii) Telephone number.
(viii) Social security number and Medicaid number, if applicable.
(ix) If the individual is a minor, the name of a parent or guardian.
(x) If the individual is an adult, the name of his or her employer.

(xi) A secondary contact for the individual tested or, if the individual is a minor, a secondary contact for the individual's parent or guardian, including, to the extent available, name and phone number of the secondary contact.
(b) The date of the sample collection.
(c) The type of sample (capillary or venous).
(d) The physician's/provider's or user's name, name of practice (if applicable), telephone number, fax number, email address, and mailing address.
(3) The information collected in subrule (2) of this rule shall be submitted with the sample for analysis to a clinical laboratory that performs blood lead analysis or a user of a portable blood lead analyzer.
(4) Upon receipt of the blood sample for lead analysis, the clinical laboratory or user of a portable blood lead analyzer shall collect the following additional information:
(a) The name, address, and phone number of the laboratory or testing entity.
(b) The date of analysis.
(c) The specimen number.
(d) The results of the blood lead analysis in micrograms of lead per deciliter of whole blood rounded to the nearest whole number.
History: 1997 AACS; 2015 MR 9, Eff. May 7, 2015.

R 325.9083 Reporting responsibilities.
Rule 3. (1) All clinical laboratories and users of portable blood lead analyzers doing business in this state that analyze blood samples for lead shall report all blood lead results, rounded to the nearest whole number, for adults and children to the department electronically consistent with R 325.9084. If a result and required reportable information under R 325.9082 cannot be reported electronically within the time frame specified by this rule, then the results shall be submitted to the Michigan Department of Community Health, Childhood Lead Poisoning Prevention Program (CLPPP), 109 W. Michigan Avenue, Lansing, MI 48909 or (517) 335-8509 (facsimile). Reports shall be made to the department within 5 working days after test completion. Nothing in these rules shall prevent a person or entity required to report under these rules from reporting results to the department sooner than 5 working days.
(2) Nothing in this rule shall be construed to relieve a clinical laboratory or a user of a portable blood lead analyzer from reporting results of a blood lead analysis to the physician or other health care provider who ordered the test or to any other entity as required by state, federal, or local statutes or regulations or in accordance with accepted standard of practice, except that reporting in compliance with this rule satisfies the blood lead reporting requirements of 1978 PA 368, MCL 333.1101 to 333.25211.
History: 1997 AACS; 2015 MR 9, Eff. May 7, 2015.

R 325.9084 Electronic communications.
Rule 4. (1) A clinical laboratory or user of a portable blood lead analyzer shall submit the data required in R 325.9082 and R 325.9083 electronically to the department.
(2) For electronic reporting, upon mutual agreement between the reporting clinical laboratory or user of a portable blood lead analyzer and the department, the reporting shall utilize the data format specifications provided by the department.
History: 1997 AACS; 2006 AACS; 2015 MR 9, Eff. May 7, 2015.

R 325.9085 Quality assurance.
Rule 5. For purposes of assuring the quality of submitted data, each clinical laboratory or user of a portable blood lead analyzer shall allow the department to inspect copies of the medical records that will be submitted by the clinical laboratory or user of a portable blood lead analyzer to verify the accuracy of the submitted data. Only the portion of the medical record that pertains to the blood lead testing shall be submitted. The department shall protect the medical records submitted using reasonably appropriate privacy and security safeguards regardless of whether the medical records are received by the department in electronic or hard copy form. After verification of submitted data, the department shall promptly destroy the copies of the medical records.
History: 1997 AACS; 2015 MR 9, Eff. May 7, 2015.

R 325.9086 Confidentiality of reports.
Rule 6. (1) Except as provided in subrule (2) of this rule, the department shall maintain the confidentiality of all reports of blood lead tests submitted to the department and shall not release reports or information that may be used to directly link the information to a particular individual.
(2) The department may release reports or information, otherwise protected under subrule (1) of this rule, under any of the following conditions:

(a) If the department has received written consent from the individual, or from the individual's parent or legal guardian, requesting the release of information.
(b) If necessary for law enforcement investigation or prosecution of a property manager, housing commission, or owner of a rental unit under section 5475a, 2004 PA 434, MCL 333.5475a.
(c) If the director of the department determines that release is crucial to protect the public health against imminent threat or danger.
(d) As necessary for the department to carry out its duties under 1978 PA 368, MCL 333.1101 to 333.25211.
(e) If necessary for the purpose of research designed to develop or contribute to generalizable knowledge, with documented approval by the department's institutional review board.
(f) If necessary for the purpose of public health activities designed to prevent lead poisoning within a community.
(3) Medical and epidemiological information that is released to a legislative body shall not contain information that identifies a specific individual. Aggregate epidemiological information concerning the public health that is released to the public for informational purposes only shall not contain information that identifies a specific individual.
History: 1997 AACS; 2006 AACS; 2015 MR 9, Eff. May 7, 2015.

R 325.9087 Rescinded.
History: 1997 AACS; 2015 MR 9, Eff. May 7, 2015.

DEPARTMENT OF COMMUNITY HEALTH

HEALTH POLICY AND REGULATION ADMINISTRATION

CERTIFICATE OF NEED

PART 1. GENERAL PROVISIONS

R 325.9101
Source: 2014 AACS.

R 325.9103
Source: 2014 AACS.

R 325.9105
Source: 2014 AACS.

R 325.9109
Source: 2014 AACS.

R 325.9121
Source: 2014 AACS.

R 325.9123
Source: 2014 AACS.

R 325.9125
Source: 2014 AACS.

PART 2. APPLICATIONS; REVIEWS

R 325.9201
Source: 2014 AACS.

R 325.9203
Source: 2014 AACS.

R 325.9204
Source: 2014 AACS.

R 325.9205
Source: 2014 AACS.

R 325.9206
Source: 2014 AACS.

R 325.9207
Source: 2014 AACS.

R 325.9208
Source: 2014 AACS.

R 325.9210
Source: 2014 AACS.

R 325.9215
Source: 2014 AACS.

R 325.9227
Source: 2014 AACS.

R 325.9228
Source: 2014 AACS.

R 325.9229
Source: 2014 AACS.

PART 3. APPROVAL AND ISSUANCE; DISAPPROVAL

R 325.9301
Source: 2014 AACS.

R 325.9303
Source: 2014 AACS.

PART 4. TERMS AND CONDITIONS

R 325.9401
Source: 2014 AACS.

R 325.9403
Source: 2014 AACS.

R 325.9413
Source: 2014 AACS.

R 325.9415
Source: 2014 AACS.

R 325.9417
Source: 2014 AACS.

R 325.9419

Source: 2014 AACS.

PART 5. ADMINISTRATIVE APPEALS

R 325.9501
Source: 2014 AACS.

R 325.9503
Source: 2014 AACS.

R 325.9505
Source: 2014 AACS.

R 325.9507
Source: 2014 AACS.

R 325.9509
Source: 2014 AACS.

R 325.9511
Source: 2014 AACS.

R 325.9513
Source: 2014 AACS.

R 325.9515
Source: 2014 AACS.

R 325.9517
Source: 2014 AACS.

R 325.9519
Source: 2014 AACS.

R 325.9521
Source: 2014 AACS.

R 325.9523
Source: 2014 AACS.

R 325.9525
Source: 2014 AACS.

R 325.9551
Source: 2014 AACS.

R 325.9552
Source: 2014 AACS.

R 325.9553
Source: 2014 AACS.

R 325.9571 Rescinded.
History: 2014 MR 3, Eff. Feb. 4, 2014; 2015 MR 1, Eff. Jan. 15, 2015.

R 325.9572 Rescinded.

History: 2014 MR 3, Eff. Feb. 4, 2014; 2015 MR 1, Eff. Jan. 15, 2015.

R 325.9573 Rescinded.
History: 2014 MR 3, Eff. Feb. 4, 2014; 2015 MR 1, Eff. Jan. 15, 2015.

R 325.9574 Rescinded.
History: 2014 MR 3, Eff. Feb. 4, 2014; 2015 MR 1, Eff. Jan. 15, 2015.

R 325.9575 Rescinded.
History: 2014 MR 3, Eff. Feb. 4, 2014; 2015 MR 1, Eff. Jan. 15, 2015.

R 325.9576 Rescinded.
History: 2014 MR 3, Eff. Feb. 4, 2014; 2015 MR 1, Eff. Jan. 15, 2015.

R 325.9577 Rescinded.
History: 2014 MR 3, Eff. Feb. 4, 2014; 2015 MR 1, Eff. Jan. 15, 2015.

R 325.9578 Rescinded.
History: 2014 MR 3, Eff. Feb. 4, 2014; 2015 MR 1, Eff. Jan. 15, 2015.

R 325.9579 Rescinded.
History: 2014 MR 3, Eff. Feb. 4, 2014; 2015 MR 1, Eff. Jan. 15, 2015.

R 325.9580 Rescinded.
History: 2014 MR 3, Eff. Feb. 4, 2014; 2015 MR 1, Eff. Jan. 15, 2015.

R 325.9581 Rescinded.
History: 2014 MR 3, Eff. Feb. 4, 2014; 2015 MR 1, Eff. Jan. 15, 2015.

R 325.9582 Rescinded.
History: 2014 MR 3, Eff. Feb. 4, 2014; 2015 MR 1, Eff. Jan. 15, 2015.

DEPARTMENT OF COMMUNITY HEALTH

HEALTH LEGISLATION AND POLICY DEVELOPMENT

LEAD HAZARD REMEDIATION

R 325.9901
Source: 2005 AACS.

R 325.9902
Source: 2005 AACS.

R 325.9903
Source: 2005 AACS.

R 325.9904
Source: 2005 AACS.

R 325.9905
Source: 2005 AACS.

R 325.9906
Source: 2005 AACS.

R 325.9907
Source: 2005 AACS.

R 325.9908
Source: 2005 AACS.

R 325.9909
Source: 2005 AACS.

R 325.9910
Source: 2005 AACS.

R 325.9911
Source: 2005 AACS.

R 325.9912
Source: 2005 AACS.

R 325.9913
Source: 2005 AACS.

R 325.9914
Source: 2005 AACS.

R 325.9915
Source: 2005 AACS.

R 325.9916
Source: 2005 AACS.

R 325.9917
Source: 2005 AACS.

R 325.9918
Source: 2005 AACS.

R 325.9919
Source: 2005 AACS.

R 325.9920
Source: 2005 AACS.

R 325.9921
Source: 2005 AACS.

R 325.9922
Source: 2005 AACS.

R 325.9923
Source: 2005 AACS.

R 325.9924
Source: 2005 AACS.

R 325.9925
Source: 2005 AACS.

HEALTH SERVICES ADMINISTRATION

SUPPLYING WATER TO THE PUBLIC

R 325.10101
Source: 1979 AC.

R 325.10102 Definitions; A, B.
Rule 102. As used in these rules:
(a) "Act" means 1976 PA 399, MCL 325.1001 to 325.1023 and known as the safe drinking water act.
(b) "Action level" means the concentration of lead or copper in water as specified in R 325.10604f(1)(c) that determines, in some cases, the treatment requirements that a water supply is required to complete.
(c) "Advisory board" means the advisory board of examiners appointed by the director under section 9(2) of the act.
(d) "Alteration" means the modification of, or addition to, an existing waterworks system, or portion of the system, that affects any of the following:
(i) Flow.
(ii) Capacity.
(iii) System service area.
(iv) Source.
(v) Treatment.
(vi) Reliability.
(e) "Approved analytical technique" means a calculation, determination, or other laboratory examination or procedure that has been approved by the United States environmental protection agency under 40 C.F.R. part 141, which is adopted by reference in R 325.10605.
(f) "Approved basement" means a basement which has walls and a floor that are constructed of concrete or its equivalent, which is essentially watertight, which is effectively drained, and which is in daily use.
(g) "Aquifer" means an underground water-bearing formation which is saturated and which transmits water in sufficient quantities to serve as a water supply.
(h) "Artesian" means a condition of internal pressure which causes the water level in a well to rise above the aquifer used to supply water at the well location.
(i) "Asset management program" means a program that identifies the desired level of service at the lowest life cycle cost for rehabilitating, repairing, or replacing the assets associated with the waterworks system.
(j) "Back-up operator" means a certified operator designated by the public water supply to be in charge of the waterworks system or portion of the waterworks system when the operator in charge is not available.
(k) "Bag filters" means pressure-driven separation devices that remove particulate matter larger than 1 micrometer using an engineered porous filtration media. They are typically constructed of a non-rigid, fabric filtration media housed in a pressure vessel in which the direction of flow is from the inside of the bag to outside.
(l) "Bank filtration" means a water treatment process that uses a well to recover surface water that has naturally infiltrated into groundwater through a river bed or bank or banks. Infiltration is typically enhanced by the hydraulic gradient imposed by a nearby pumping water supply or other well or wells.
(m) "Bottled drinking water" means water that is ultimately sold, provided, or offered for human consumption in a closed container.
History: 1979 AC; 1991 AACS; 1994 AACS; 2000 AACS; 2003 AACS; 2009 AACS; 2015 MR 20, Eff. Oct. 16, 2015.

R 325.10103 Definitions; C.
Rule 103. As used in these rules:
(a) "C" in "CT calculation" means the residual disinfectant concentration measured in milligrams per liter in a representative sample of water.
(b) "Cartridge filters" means pressure-driven separation devices that remove particulate matter larger than 1 micrometer using an engineered porous filtration media. They are typically constructed as rigid or semi-rigid, self-supporting filter elements housed in pressure vessels in which flow is from the outside of the cartridge to the inside.
(c) "Casing" means a durable pipe that is placed in a well to prevent the soil from caving in and to seal off surface drainage or undesirable water, gases, contaminants, or other fluids and prevent them from entering the well and the aquifer supplying the well.
(d) "Casing vent" means an outlet at the upper terminal of a well casing which provides atmospheric pressure in the well and which allows the escape of gases when present.
(e) "Certificate" means a document that is issued by the department to a person who meets the qualification requirements for operating a waterworks system or a portion of the waterworks system.

(f) "Certified operator" means an operator who holds a certificate.
(g) "Clean compliance history" means, for the purposes of the total coliform provisions of R 325.10704a to R 325.10704k, a record of no MCL violations under R 325.10602; no monitoring violations under R 325.10704 to R 325.10709; and no coliform treatment technique trigger exceedances or treatment technique violations under R 325.10704a to R 325.10704k.
(h) "Combined distribution system" means the interconnected distribution system consisting of the distribution systems of wholesale supplies and of the consecutive supplies that receive finished water.
(i) "Community supply" or "community water supply" or "community water system" means a public water supply that provides year-round service to not fewer than 15 living units or that regularly provides year-round service to not fewer than 25 residents.
(j) "Complete treatment" means a series of processes, including disinfection and filtration, to treat surface water or ground water under the direct influence of surface water, or to treat ground water not under the direct influence of surface water that uses precipitative softening, to produce a finished water meeting state drinking water standards.
(k) "Compliance cycle" means the 9-year calendar year cycle during which public water supplies are required to monitor. Each compliance cycle consists of three 3-year compliance periods. The first calendar year cycle begins January 1, 1993, and ends December 31, 2001; the second begins January 1, 2002, and ends December 31, 2010; the third begins January 1, 2011, and ends December 31, 2019.
(l) "Compliance period" means a 3-year calendar year period within a compliance cycle. Each compliance cycle has three 3-year compliance periods. Within the first compliance cycle, the first compliance period runs from January 1, 1993, to December 31, 1995; the second from January 1, 1996, to December 31, 1998; the third from January 1, 1999, to December 31, 2001.
(m) "Comprehensive performance evaluation (CPE)" means a thorough review and analysis of a treatment plant's performance-based capabilities and associated administrative, operation, and maintenance practices. It is conducted to identify factors that may be adversely impacting a plant's capability to achieve compliance and emphasizes approaches that can be implemented without significant capital improvements. For purposes of compliance, the comprehensive performance evaluation shall consist of at least all of the following components:
(i) Assessment of plant performance.
(ii) Evaluation of major unit processes.
(iii) Identification and prioritization of performance limiting factors.
(iv) Assessment of the applicability of comprehensive technical assistance.
(v) Preparation of a CPE report.
(n) "Confluent growth" means a continuous bacterial growth that covers the entire filtration area of a membrane filter, or portion of a filtration area, in which bacterial colonies are not discrete.
(o) "Consecutive system" or "consecutive supply" means a public water supply that receives some or all of its finished water from 1 or more wholesale supplies. Delivery may be through a direct connection or through the distribution system of 1 or more consecutive supplies.
(p) "Construction" means the erection, installation, or alteration of a waterworks system, or any portion of a waterworks system, that affects any of the following:
(i) Flow.
(ii) Capacity.
(iii) System service area.
(iv) Source.
(v) Treatment.
(vi) Reliability.
(q) "Contested cases" means matters that are within the definition of a contested case as set forth by section 3(3) of 1969 PA 306, MCL 24.203(3), and matters of issue that involve any of the following which are issued by the director, the department, or the division under the act and these rules:
(i) Orders.
(ii) Exemptions.
(iii) Variances.
(iv) Stipulations.
(v) Consent agreements.
(vi) Permits.
(vii) Licenses.
(viii) Certificates.

(r) "Contested case hearing" means a hearing that is initiated by the department or a person under chapters 4, 5, and 6 of 1969 PA 306, MCL 24.271 to 24.306.
(s) "Contaminant" means a physical, chemical, biological, or radiological substance or matter in water.
(t) "Conventional filtration" means a series of processes, including coagulation, flocculation, sedimentation, and filtration, resulting in substantial particulate removal.
(u) "Corrosion inhibitor" means a substance that is capable of reducing the corrosivity of water toward metal plumbing materials, especially lead and copper, by forming a protective film on the interior surface of those materials.
(v) "Cross connection" means a connection or arrangement of piping or appurtenances through which a backflow could occur.
(w) "CT calculation" means the product of residual disinfectant concentration (C) in milligrams per liter determined at or before the first customer and the corresponding disinfectant contact time (T) in minutes; C*T is calculated at rated capacity. The total CT shall be the sum of individual CTs of each disinfectant sequence.
(x) "Customer service connection" means the pipe between a water main and customer site piping or building plumbing system.
(y) "Customer site piping" means an underground piping system owned or controlled by the customer that conveys water from the customer service connection to building plumbing systems and other points of use on lands owned or controlled by the customer. Customer site piping does not include any system that incorporates treatment to protect public health.
History: 1979 AC; 1991 AACS; 1993 AACS; 1994 AACS; 2000 AACS; 2002 AACS; 2003 AACS; 2009 AACS; 2015 MR 20, Eff. Oct. 16, 2015.

R 325.10104
Source: 2009 AACS.

R 325.10105 Definitions; F to L.
Rule 105. As used in these rules:
(a) "Federal act" means the safe drinking water act of 1974, 42 U.S.C.§300f et seq. and the state and local assistance set forth in 40 C.F.R. part 35, §35.600 to §35.630; national primary drinking water regulations set forth in 40 C.F.R. part 141; and national primary drinking water regulations implementation set forth in 40 C.F.R. part 142 promulgated by EPA (2014) under the federal act.
(b) "Filter profile" means a graphical representation of individual filter performance, based on continuous turbidity measurements or total particle counts versus time for an entire filter run, from startup to backwash inclusively, that includes an assessment of filter performance while another filter is being backwashed.
(c) "Finished water" means water that is introduced into the distribution system of a public water supply and is intended for distribution and consumption without further treatment, except as treatment necessary to maintain water quality in the distribution system, for example, booster disinfection, addition of corrosion control chemicals.
(d) "Firm capacity," as applied to wells, pumping stations, or units of treatment systems, means the production capability of each respective part of the waterworks system with the largest well, pump, or treatment unit out of service.
(e) "First draw sample" means a 1-liter sample of tap water which has been standing in plumbing pipes for not less than 6 hours and which is collected without flushing the tap.
(f) "Flowing stream" means a course of running water flowing in a definite channel.
(g) "GAC10" means granular activated carbon filter beds with an empty-bed contact time of 10 minutes based on average daily flow and a carbon reactivation frequency of every 180 days, except that the reactivation frequency for GAC10 used as a best available technology for compliance with TTHM and HAA5 MCLs based on a locational running annual average under R 325.10610 shall be 120 days.
(h) "GAC20" means granular activated carbon filter beds with an empty-bed contact time of 20 minutes based on average daily flow and a carbon reactivation frequency of every 240 days.
(i) "Gravity storage tank" means an elevated or ground level finished water storage reservoir that, during normal use, operates under atmospheric pressure.
(j) "Ground water" or "groundwater" means the water in the zone of saturation in which all of the pore spaces of the subsurface material are filled with water.
(k) "Ground water under the direct influence of surface water (GWUDI)" means any water beneath the surface of the ground with significant occurrence of insects or other macroorganisms, algae, or large-diameter pathogens such as Giardia lamblia or Cryptosporidium, or significant and relatively rapid shifts in water characteristics, such as turbidity, temperature, conductivity, or pH, that closely correlate to climatological or surface water conditions. The department will determine direct influence for individual sources in accordance with this definition and R 325.10611(1) and will notify the supply of its determination.

(l) "Grout" means neat cement, concrete, or other sealing material which is approved by the department and which is used to seal a well casing in a well.
(m) "Haloacetic acids (five) (HAA5)" mean the sum of the concentrations in milligrams per liter of the haloacetic acid compounds (monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, monobromoacetic acid, and dibromoacetic acid), rounded to 2 significant figures after addition.
(n) "Imminent hazard" means that, in the judgment of the director, there is a violation, or a condition that may cause a violation, of the state drinking water standards at a public water supply requiring immediate action to prevent endangering the health of people.
(o) "Initial compliance period" means January 1993 to December 1995. For a supply that has less than 150 service connections, the initial compliance period is January 1996 to December 1998 for contaminants listed in part 6 of these rules that have an effective date of January 17, 1994.
(p) "Lake/reservoir" means a natural or man-made basin or hollow on the Earth's surface in which water collects or is stored that may or may not have a current or single direction of flow.
(q) "Large water supply" or "large water system," for the purpose of lead and copper control, means a public water supply that serves more than 50,000 persons.
(r) "Lead service line" means a service line which is made of lead and which connects the water main to the building inlet and any lead pigtail, gooseneck, or other fitting that is connected to the lead line.
(s) "Level 1 assessment" means an evaluation to identify the possible presence of sanitary defects, defects in distribution system coliform monitoring practices, and (when possible) the likely reason that the supply triggered the assessment. Level 1 assessment shall be conducted by the supply operator or owner. Minimum elements include review and identification of atypical events that could affect distributed water quality or indicate that distributed water quality was impaired; changes in distribution system maintenance and operation that could affect distributed water quality (including water storage); source and treatment considerations that bear on distributed water quality, where appropriate (for example, whether a ground water supply is disinfected); existing water quality monitoring data; and inadequacies in sample sites, sampling protocol, and sample processing. The supply shall conduct the assessment consistent with any department directives that tailor specific assessment elements with respect to the size and type of the supply and the size, type, and characteristics of the distribution system.
(t) "Level 2 assessment" means an evaluation to identify the possible presence of sanitary defects, defects in distribution system coliform monitoring practices, and (when possible) the likely reason that the supply triggered the assessment. A level 2 assessment provides a more detailed examination of the supply (including the supply's monitoring and operational practices) than does a level 1 assessment through the use of more comprehensive investigation and review of available information, additional internal and external resources, and other relevant practices. Level 2 assessment shall be conducted by the department. Minimum elements include review and identification of atypical events that could affect distributed water quality or indicate that distributed water quality was impaired; changes in distribution system maintenance and operation that could affect distributed water quality (including water storage); source and treatment considerations that bear on distributed water quality, where appropriate (for example, whether a ground water supply is disinfected); existing water quality monitoring data; and inadequacies in sample sites, sampling protocol, and sample processing. The department shall conduct the assessment tailoring specific assessment elements with respect to the size and type of the supply and the size, type, and characteristics of the distribution system. The supply shall comply with any expedited actions or additional actions required by the department in the case of an E. coli MCL violation.
(u) "License" means the license that is issued by the department to a water hauler, or for a water hauling tank, under section 18 of the act.
(v) "Limited treatment system" means a treatment system, including, but not limited to, disinfection, fluoridation, iron removal, ion exchange treatment, phosphate application, or filtration other than complete treatment.
(w) "Living unit" means a house, apartment, or other domicile occupied or intended to be occupied on a day-to-day basis by an individual, family group, or equivalent.
(x) "Locational running annual average (LRAA)" means the average of sample analytical results for samples taken at a particular monitoring location during the previous 4 calendar quarters.
History: 1979 AC; 1994 AACS; 2000 AACS; 2002 AACS; 2003 AACS; 2009 AACS; 2015 MR 20, Eff. Oct. 16, 2015.

R 325.10106
Source: 2009 AACS.

R 325.10107
Source: 2009 AACS.

R 325.10108 Definitions; S.
Rule 108. As used in these rules:
(a) "Sanitary defect" means a defect that could provide a pathway of entry for microbial contamination into the distribution system or that is indicative of a failure or imminent failure in a barrier that is already in place.
(b) "Sanitary survey" means an evaluation, including an on-site review of a waterworks system or a portion of the waterworks system, including all of the following applicable components for existing or potential health hazards for the purpose of determining the ability of the public water supply to produce, treat, and distribute adequate quantities of water meeting state drinking water standards:
(i) Source.
(ii) Treatment.
(iii) Distribution system.
(iv) Finished water storage.
(v) Pumps, pump facilities, and controls.
(vi) Monitoring, reporting, and data verification.
(vii) System management and operation.
(viii) Operator compliance with state requirements.
(c) "Seasonal supply" means a noncommunity water supply that is not operated as a public water supply on a year-round basis and starts up and shuts down at the beginning and end of each operating season.
(d) "Service connection" means a direct connection from a distribution water main to a living unit or other site to provide water for drinking or household purposes.
(e) "Service line sample" means a 1 liter sample of water that has been standing for not less than 6 hours in a service line.
(f) "Shift operator" means a certified operator, other than the operator in charge, who is in charge of an operating shift of a waterworks system.
(g) "Single-family structure," for the purpose of lead and copper control, means a building which is constructed as a single-family residence and which is currently used as either a residence or a place of business.
(h) "Small water supply" or "small water system," for the purpose of lead and copper control, means a public water supply that serves fewer than 3,301 persons.
(i) "SOC" means synthetic organic chemical.
(j) "Source" means the point of origin of raw water or means treated water that is purchased or obtained by a public water supply, by a water hauler, or by a person who provides bottled water.
(k) "State drinking water standards" means quality standards setting limits for contaminant levels or establishing treatment techniques to meet standards necessary to protect the public health.
(l) "Static water level" means the distance measured from an established datum at or above ground level to the water surface in a well which is not being pumped, which is not under the influence of pumping, and which is not flowing under artesian pressure.
(m) "Subpart H system" or "subpart H supply" means a public water supply using surface water or ground water under the direct influence of surface water as a source.
(n) "Suction line" means a pipe or line that is connected to the inlet side of a pump or pumping equipment.
(o) "Supplier of water" or "supplier" means a person who owns or operates a public water supply, and includes a water hauler.
(p) "Surface water" means water that rests or flows on the surface of the ground.
(q) "SUVA" means specific ultraviolet absorption at 254 nanometers (nm), an indicator of the humic content of water. It is a calculated parameter obtained by dividing a sample's ultraviolet absorption at a wavelength of 254 nm (uv254) (in m-1) by its concentration of dissolved organic carbon (DOC) (in mg/l). Therefore, SUVA units are l/mg-m.
(r) "System with a single service connection" means a public water supply that supplies drinking water to consumers through a single service line.
History: 1979 AC; 1991 AACS; 1993 AACS; 1994 AACS; 2000 AAS; 2002 AACS; 2003 AACS; 2009 AACS; 2015 MR 20, Eff. Oct. 16, 2015.

R 325.10109
Source: 2009 AACS.

R 325.10110
Source: 1998-2000 AACS.

R 325.10111
Source: 1998-2000 AACS.

R 325.10112 Adoption by reference.
Rule 112. (1) The materials adopted by reference in this rule are available for inspection at the offices of the department or from the sources, or available on the Internet. The contact information for the department and each source for the materials are listed in R 325.10116 addresses. The purchase prices are at the time of adoption of these rules.
(2) Report 22, 1963, Maximum Permissible Body Burdens and Maximum Permissible Concentrations of Radionuclides in Air and in Water for Occupational Exposure is adopted by reference. The material is referenced in R 325.10603. The material is available for purchase for $20.00 from the National Council on Radiation Protection and Measurements.
(3) NSF international standards are available for purchase from NSF International or on the Internet at http://www.nsf.org. The department adopts by reference all of the following NSF standards:

Standard	Name	Date	Price	Rule Reference
44-2013	Residential Cation Exchange Water Softeners	06/11/2013	$165.00	R 325.10313
53-2013	Drinking Water Treatment Units - Health Effects	06/11/2013	$165.00	R 325.10313
58-2013	Reverse Osmosis Drinking Water Treatment Systems	12/01/2013	$165.00	R 325.10313
60-2012	Drinking Water Treatment Chemicals - Health Effects	08/22/2012	$325.00	R 325.12102
61-2012	Drinking Water System Components - Health Effects	07/08/2012	$325.00	R 325.12102
61-2012 addendum	Addendum: Drinking Water System Components - Health Effects	03/26/2013	$45.00	R 325.12102
62-2013	Drinking Water Distillation Systems	06/11/2013	$165.00	R 325.10313

(4) Title 40 of the Code of Federal Regulations is available on the Internet at http://www.ecfr.gov or contained in 40 CFR parts 136 to 149 available from the superintendent of documents for $67.00. The department adopts by reference both of the following 40 CFR materials:
(a) 40 CFR §141.42(d) Special Monitoring for Corrosivity Characteristics, December 5, 1994, referenced in R 325.10710a.
(b) CT99.9 values in Tables 1.1 to 1.6, 2.1 and 3.1 of 40 CFR §141.74(b)(3)(v) analytical and monitoring requirements, (2014), referenced in R 325.10722.
(5) CT99.99 values in the tables in appendix b of the LT1ESWTR Disinfection Profiling and Benchmarking Technical Guidance Manual, May 2003, are adopted by reference. The material is referenced in R 325. 10722. The guidance manual is accessible on the Internet at http://www.epa.gov/safewater/mdbp/lt1eswtr.html or available for purchase for $32.50 from Educational Realms (document C-900) at 1929 Kenny Road, Columbus, Ohio 43210-1080, Internet address www.stemworks.org, telephone number 800-276-0462.
History: 1979 AC; 1998 AACS; 2000 AACS; 2002 AACS; 2009 AACS; 2015 MR 20, Eff. Oct. 16, 2015.

R 325.10113 Compliance with rules; guideline information.
Rule 113. Public water supplies may use the information in the following publications as guideline documents to comply with these rules:
(a) Recommended standards for water works, prepared by the Great Lakes--upper Mississippi river board of state sanitary engineers, is available for inspection at the department offices in Lansing, and may be purchased at a cost of $12.00 from the Health Education Services, P.O. Box 7126, Albany, New York 12224 telephone 518-439-7286, Internet http://www.hes.org/.
(b) The American water works association manual M 19, emergency planning for water utilities, 2001, as referred to in part 23, is available for inspection at the department offices in Lansing, and may be purchased at a cost of $95.00 from the American Water Works Association, 6666 West Quincy Avenue, Denver, Colorado 80235, telephone 1-800-926-7337, Internet www.awwa.org.
(c) Suggested practices for waterworks design, construction, and operation for type I public water supplies, February 2008, prepared by the Michigan department of environmental quality, is available for inspection at the department offices in Lansing and on the Internet at http://www.michigan.gov/deq.
(d) Best practices manual for cross connection control, fourth edition, October 2008, prepared by the Michigan department of environmental quality, is available for inspection at the department offices in Lansing and on the Internet at http://www.michigan.gov/deq.

(e) Reference Guide for Asset Management Tools: Asset Management Plan Components and Implementation Tools for Small and Medium sized Drinking Water and Wastewater Systems, May 2014, prepared by the U.S. Environmental Protection Agency, document number EPA 816-B-14-001 is available for inspection at the department offices in Lansing.
History: 1979 AC; 2000 AACS; 2009 AACS; 2015 MR 20, Eff. Oct. 16, 2015.

R 325.10114
Source: 1979 AC

R 325.10115
Source: 1979 AC.

R 325.10116 Addresses.
Rule 116. The following are addresses and contact information of the department and other organizations referred to in these rules:
(a) Department of Environmental Quality, Office of Drinking Water and Municipal Assistance, 525 West Allegan Street, Post Office Box 30241, Lansing, MI 48909-7741, Telephone 800-662-9278. Internet address: http://www.michigan.gov/deq.
(b) National Council On Radiation Protection and Measurements, 7910 Woodmont Avenue, Suite 400, Bethesda, Maryland 20814-3095, Telephone 301-657-2652. Internet address: http://www.ncrponline.org/.
(c) NSF International, P.O Box 130140, 789 North Dixboro Road, Ann Arbor, Michigan 48105, telephone 734-769-8010 or 800 673 6275, email info@nsf.org, Internet address http://www.nsf.org.
(d) Superintendent of Documents, United States Government Printing Office, Post Office Box 979050, St. Louis, MO 63197-9000, Telephone 202-512-1800. Internet address to download documents is http://www.gpoaccess.gov/index.html or to purchase documents online is http://bookstore.gpo.gov.
History: 2002 AACS; 2009 AACS; 2015 MR 20, Eff. Oct. 16, 2015.

PART 2. HEARINGS AND CONTESTED CASES

R 325.10201
Source: 1979 AC.

R 325.10202
Source: 1979 AC.

R 325.10203
Source: 1979 AC.

R 325.10204
Source: 1979 AC.

R 325.10205
Source: 1979 AC.

R 325.10206
Source: 1979 AC.

R 325.10207
Source: 1979 AC.

R 325.10208
Source: 1979 AC.

PART 3. VARIANCES, EXEMPTIONS AND TREATMENT TECHNOLOGIES

R 325.10301
Source: 1979 AC.

R 325.10302
Source: 1979 AC.

R 325.10303 Request for variance or exemption from state drinking water standards generally.
Rule 303. (1) A variance or exemption from a state drinking water standard shall not be granted with respect to either of the following:
(a) MCLs for E. coli and total coliform. Beginning April 1, 2016, the total coliform MCL is no longer effective.
(b) Treatment technique requirements of filtration and disinfection under R 325.10611 to R 325.10611c.
(2) A supplier of water who wishes to request a variance or exemption from a state drinking water standard shall make that request, in writing, to the department not less than 90 days before the date on which the supplier of water wishes the variance or exemption to be effective. The request shall be made in a manner prescribed by the department and shall contain all information required by this part and the federal act.
(3) Requests for variances or exemptions from state drinking water standards for more than 1 MCL or treatment technique shall be made separately.
History: 1979 AC; 1991 AACS; 2015 MR 20, Eff. Oct. 16, 2015.

R 325.10304 Variance from MCL or treatment technique; required finding.
Rule 304. Variances from an MCL or treatment technique other than those prohibited in R 325.10303 may be granted by the director only upon his or her specific finding that either of the following conditions exists:
(a) The supplier of water demonstrates that the characteristics of the raw water source or sources which are reasonably available to the public water supply do not permit the public water supply to meet the maximum contaminant level specified in a state drinking water standard despite application of the best available treatment technology, techniques, or other means which the department finds are generally available, taking costs into consideration, and that the granting of a variance will not result in an unreasonable risk to the health of persons served by the public water supply.
(b) The supplier of water demonstrates that a specific treatment technique is not necessary to protect the health of persons served by the public water supply, and that the granting of the variance will not result in an unreasonable risk to the health of persons served by the public water supply.
History: 1979 AC; 1991 AACS; 2015 MR 20, Eff. Oct. 16, 2015.

R 325.10305
Source: 1979 AC.

R 325.10306 Exemption from MCL or treatment technique; required finding.
Rule 306. Exemptions from an MCL or treatment technique other than those prohibited in R 325.10303 may be granted by the director only upon his or her specific finding that all of the following conditions exist:
(a) Due to compelling factors, including economic factors, a public water supply is not able to comply with an MCL or treatment technique.
(b) A public water supply for which an exemption is requested was in operation on the effective date of the state drinking water standard.
(c) The supplier of water demonstrates that the granting of an exemption will not result in an unreasonable risk to the health of persons using the public water supply.
History: 1979 AC; 1991 AACS; 2015 MR 20, Eff. Oct. 16, 2015.

R 325.10307
Source: 1979 AC.

R 325.10308
Source: 1979 AC.

R 325.10308a
Source: 1984 AACS.

R 325.10308b
Source: 2009 AACS.

R 325.10309
Source: 1979 AC.

R 325.10310

Source: 1979 AC.

R 325.10311
Source: 1979 AC.

R 325.10312
Source: 1979 AC.

R 325.10313 Criteria for water supplies using POE, or POU, or both.
Rule 313. (1) Community and noncommunity water supplies shall not use point-of-use devices (POU) or point-of-entry devices (POE) except as required by the department under R 325.10308b or under all of the following provisions with department approval:
(a) Community water supplies may use POE to comply with the maximum contaminant level or treatment technique for organic, inorganic, and radiological contaminants.
(b) Noncommunity water supplies may use POU, or POE, or both, to comply with maximum contaminant levels or treatment techniques for organic and inorganic contaminants.
(c) An alternative source of water that meets state drinking water standards is not available.
(2) Supplies that use POU or POE, or both, shall meet all of the following requirements:
(a) The supply shall operate and maintain the POU, or POE, or both.
(b) Before POU, or POE, or both, are installed, the supply shall obtain department approval of a monitoring plan that ensures that the devices provide health protection equivalent to that provided by central water treatment. If the POU, or POE, or both, are being used to comply with maximum contaminant levels or treatment techniques, then "equivalent" means that the water shall meet all state drinking water standards and shall be of acceptable quality similar to water distributed by a well-operated central treatment plant. At a minimum, the monitoring plan shall include all of the following:
(i) Contaminants and parameters to be analyzed.
(ii) Physical measurements and observations, such as total flow treated and mechanical condition of the treatment equipment.
(iii) Location of sampling sites.
(iv) Frequency of sampling. Approximately 10% of the treatment units shall be sampled at regular intervals so that all the POE or POU are monitored at least as frequently as required in part 7 for a particular contaminant. For example, for a contaminant that is required to be sampled every 3 years, 10% of the POE or POU shall be monitored quarterly so that in 3 years time all of the POE or POU have been monitored. The department may approve an alternate frequency that better represents the rate of degradation of the POE or POU.
(c) Before POU, or POE, or both, are installed, the supply shall obtain department approval of a technology plan that ensures that effective technology is applied and that the microbiological safety of the water is maintained at all times. At a minimum, the technology plan shall include all of the following:
(i) The POU, or POE, or both, shall be equipped with mechanical warnings to ensure that customers are automatically notified of operational problems.
(ii) If a specific type of POU or POE has been independently certified to comply with the maximum contaminant level or treatment technique in accordance with the American national standards institute/national sanitation foundation standards 44, 53, 58, or 62, as adopted by reference in R 325.10112, then individual units of that type shall be used to comply with the maximum contaminant level or treatment technique. A supply may use an alternate type of POU or POE if the supply demonstrates to the department, using pilot plant studies or other means, that the alternative POU or POE consistently complies with the maximum contaminant level or treatment technique and the department approves the use of the POU or POE.
(iii) The design and application of the POU, or POE, or both, shall consider the potential for increasing concentrations of heterotrophic bacteria in water treated with activated carbon. Frequent backwashing, post-contactor disinfection, and heterotrophic plate count monitoring may ensure that the microbiological safety of the water is not compromised.
(d) The supply shall demonstrate that buildings connected to the system have sufficient POU, or POE, or both, that are properly installed, maintained, and monitored such that all of consumers shall be protected.
(e) If the POU, or POE, or both, are used to meet an MCL or treatment technique, then the supply shall replace or repair the POU or POE when the contaminant for which the device is intended to control is above the maximum contaminant level in a confirmed sample.
(3) Compliance with the maximum contaminant level shall be determined based on the analytical results obtained at each POU or POE, also known as "sampling point". Compliance determination shall be made under R 325.10604b(2) for

volatile organic contaminants, R 325.10604c(2) for inorganic contaminants, or R 325.10604d(2) for synthetic organic chemicals.
(4) Supplies that violate the MCL shall notify the department under part 7 of these rules and shall notify the public under part 4 of these rules. The supply may limit the distribution of the public notice to only persons served by the POU or POE that is out of compliance.
History: 2005 AACS; 2009 AACS; 2015 MR 20, Eff. Oct. 16, 2015.

PART 4. PUBLIC NOTIFICATION AND PUBLIC EDUCATION

R 325.10401
Source: 2009 AACS.

R 325.10401a General public notification requirements.
Rule 401a. (1) Each community water supply, nontransient noncommunity water supply, or transient noncommunity water supply shall give notice for violations of the maximum contaminant level (MCL), maximum residual disinfection level (MRDL), treatment technique (TT), monitoring requirements, testing procedures in these rules, and for other situations, as listed in the following provisions:
(a) Violations and other situations requiring public notice, including all of the following:
(i) Failure to comply with an applicable maximum contaminant level (MCL) or maximum residual disinfectant level (MRDL).
(ii) Failure to comply with a prescribed treatment technique (TT).
(iii) Failure to perform water quality monitoring, as required by part 7 of these rules.
(iv) Failure to comply with testing procedures as prescribed by part 6 of these rules.
(b) Variance and exemptions under part 3 of these rules, including both of the following:
(i) Operation under a variance or an exemption.
(ii) Failure to comply with the requirements of a schedule that has been set under a variance or exemption.
(c) Special public notices, including all of the following:
(i) Occurrence of a waterborne disease outbreak or other waterborne emergency.
(ii) Exceedance of the nitrate MCL by noncommunity water supplies, where granted permission by the department.
(iii) Fluoride level above 2.0 mg/l as specified in R 325.10408a.
(iv) Availability of unregulated contaminant monitoring data.
(v) Other violations and situations which are determined by the department to require a public notice under this part and which are not already listed in table 1 of this rule. The tier assignment for each specific violation or situation requiring a public notice is identified in table 1 of this rule. Community and noncommunity water supplies are also considered "water supplies" or "supplies" in this rule, R 325.10402 to R 325.10407 and R 325.10408a to R 325.10409.
(2) Public notice requirements are divided into 3 tiers to take into account the seriousness of the violation or situation and of the potential adverse health effects that may be involved. The public notice requirements for each violation or situation listed in subrule (1) of this rule are determined by the tier to which the violation or situation is assigned. The definition of each tier is provided in the following provisions:
(a) Tier 1 public notice is required for violations and situations that have significant potential to have serious adverse effects on human health as a result of short term exposure.
(b) Tier 2 public notice is required for all other violations and situations that have potential to have serious adverse effects on human health.
(c) Tier 3 public notice is required for all other violations and situations not included in tier 1 and tier 2. The tier assignment for each specific violation or situation is identified in table 1 of this rule.
(3) Supplies shall provide public notice to the following:
(a) Each supply shall provide public notice to persons served by the supply as specified in this part. Supplies that sell or otherwise provide drinking water to other public water supplies, such as to consecutive supplies, shall give public notice to the consecutive supply. The consecutive supply shall provide public notice to the persons it serves.
(b) If a public water supply has a violation in a portion of the distribution system that is physically or hydraulically isolated from other parts of the distribution system, then the department may grant permission, which shall be in writing, to the supply to limit distribution of the public notice to only persons served by that portion of the system which is out of compliance. To be physically separated, the supply shall show that the affected portion of the distribution system is separated from other parts of the distribution system with no interconnections. To be considered hydraulically separated, the supply shall show that the design of the distribution system or the system operation, or both, created a situation

where water in the affected portion is effectively isolated from the water in all other parts of the distribution system because of projected water flow patterns and water pressure zones.
(4) The supply, within 10 days of completing the public notification requirements under this part for the initial public notice and applicable repeat notices, shall submit to the department a certification that it fully complied with the public notification regulations. The supply shall include with this certification a representative copy of each type of notice distributed, published, posted, and made available to the persons served by the supply and to the media.

Table 1 Violations and other situations requiring public notice

Contaminant	MCL/MRDL/TT violations [1]		Monitoring, testing, & reporting procedure violations	
	Tier of public notice required	Citation	Tier of public notice required	Citation
I. Violations of MCL, MRDL, treatment technique, monitoring and reporting, and testing procedure requirements:				
A. Microbiological contaminants				
Total coliform until March 31, 2016	2	R 325.10602(a) and (b)	3	R 325.10704 to R 325.10707a R 325.10702(2) R 325.10707b(4)
Total coliform (TT violations resulting from failure to perform assessments or corrective actions, monitoring violations, and reporting violations) beginning April 1, 2016	2	R 325.10704j(2)(a)	3	R 325.10704j(3) R 325.10704j(4)(a)
Seasonal supply failure to follow department-approved start-up plan before serving water to the public or failure to provide certification to the department beginning April 1, 2016	2	R 325.10704j(2)(b)	3	R 325.10704j(4)(c)
Fecal coliform/E. coli until March 31, 2016	1	R 325.10602(c)	1, 3 [2]	R 325.10704(3) R 325.10707b(4)
E. coli (MCL, monitoring, and reporting violations) beginning April 1, 2016	1	R 325.10704j(1)	3	R 325.10704j(3)(b) R 325.10704j(4)(a) R 325.10704j(4)(b)
E. coli (TT violations resulting from failure to perform level 2 Assessments or corrective action) beginning April 1, 2016	2	R 325.10704j(2)(a)	n/a	n/a
Turbidity (for TT violations resulting from a single exceedance of maximum allowable turbidity level)	2, 1 [3]	R 325.10611b	3	R 325.10605 R 325.10720(2)(a) and (b)

Contaminant	MCL/MRDL/TT violations [1]		Monitoring, testing, & reporting procedure violations	
	Tier of public notice required	Citation	Tier of public notice required	Citation
Violations, other than violations resulting from single exceedance of max. allowable turbidity level (TT)	2	R 325.10611, R 325.10611a, and R 325.10611b	3	R 325.10605 R 325.10720(2)(c) and (d)
Violations of disinfection profiling and benchmarking	N/A	N/A	3	R 325.10722
Violations of filter backwash recycling provisions	2	R 325.10611c	3	R 325.1507
Violations of enhanced treatment for cryptosporidium	2	R 325.10611e to R 325.10611m	2, 3	40 CFR §141.701 to §141.705, as adopted by reference in R 325.10720b, R 325.10720c and R 325.10720d. Failure to collect 3 or more samples for Cryptosporidium analysis is a Tier 2 violation requiring special notice as required in R 325.10408d. All other monitoring and testing procedure violations are Tier 3.
Violations of rules for ground water supplies subject to R 325.10612	2	R 325.10612b	3	R 325.10739(7) R 325.10739a(5)
B. Inorganic chemicals (IOC)				
Antimony	2	R 325.10604c(1)	3	R 325.10710(4) and (5)
Arsenic	2	R 325.10604c(1)	3	R 325.10710(4) and (5) R 325.10605
Asbestos (fibers longer than 10 µm)	2	R 325.10604c(1)	3	R 325.10710(4), (6)
Barium	2	R 325.10604c(1)	3	R 325.10710(4) and (5)
Beryllium	2	R 325.10604c(1)	3	R 325.10710(4) and (5)
Cadmium	2	R 325.10604c(1)	3	R 325.10710(4) and (5)
Chromium (total)	2	R 325.10604c(1)	3	R 325.10710(4) and (5)
Cyanide (free)	2	R 325.10604c(1)	3	R 325.10710(4) and (5)

Contaminant	MCL/MRDL/TT violations [1]		Monitoring, testing, & reporting procedure violations	
	Tier of public notice required	Citation	Tier of public notice required	Citation
Fluoride	2	R 325.10604c(1)	3	R 325.10710(4) and (5)
Mercury (inorganic)	2	R 325.10604c(1)	3	R 325.10710(4) and (5)
Nitrate (as nitrogen)	1	R 325.10604c(1)	1, 3 [4]	R 325.10710(3), (4), (7), and (9)(b)
Nitrite (as nitrogen)	1	R 325.10604c(1)	1, 3 [4]	R 325.10710(3), (4), (8), and (9)(b)
Total nitrate and nitrite (as nitrogen)	1	R 325.10604c(1)	3	R 325.10710(4)
Selenium	2	R 325.10604c(1)	3	R 325.10710(4) and (5)
Thallium	2	R 325.10604c(1)	3	R 325.10710(4) and (5)
C. Lead and copper (action level for lead is 0.015 mg/l, for copper is 1.3 mg/l)				
Lead and copper rule (TT)	2	R 325.10604f(1) – (5) R 325.10410(2) and (3)	3	R 325.10710a to R 325.10710c and R 325.10605
D. Synthetic organic chemicals (SOC)				
2,4-D	2	R 325.10604d(1)	3	R 325.10717
2,4,5-TP (silvex)	2	R 325.10604d(1)	3	R 325.10717
Alachlor	2	R 325.10604d(1)	3	R 325.10717
Atrazine	2	R 325.10604d(1)	3	R 325.10717
Benzo(a)pyrene (PAHs)	2	R 325.10604d(1)	3	R 325.10717
Carbofuran	2	R 325.10604d(1)	3	R 325.10717
Chlordane	2	R 325.10604d(1)	3	R 325.10717
Dalapon	2	R 325.10604d(1)	3	R 325.10717
Di (2-ethylhexyl) adipate	2	R 325.10604d(1)	3	R 325.10717
Di (2-ethylhexyl) phthalate	2	R 325.10604d(1)	3	R 325.10717
Dibromochloropropane	2	R 325.10604d(1)	3	R 325.10717
Dinoseb	2	R 325.10604d(1)	3	R 325.10717
Dioxin (2,3,7,8-TCDD)	2	R 325.10604d(1)	3	R 325.10717
Diquat	2	R 325.10604d(1)	3	R 325.10717
Endothall	2	R 325.10604d(1)	3	R 325.10717
Endrin	2	R 325.10604d(1)	3	R 325.10717
Ethylene dibromide	2	R 325.10604d(1)	3	R 325.10717
Glyphosate	2	R 325.10604d(1)	3	R 325.10717
Heptachlor	2	R 325.10604d(1)	3	R 325.10717
Heptachlor epoxide	2	R 325.10604d(1)	3	R 325.10717
Hexachlorobenzene	2	R 325.10604d(1)	3	R 325.10717
Hexachlorocyclo-pentadiene	2	R 325.10604d(1)	3	R 325.10717
Lindane	2	R 325.10604d(1)	3	R 325.10717
Methoxychlor	2	R 325.10604d(1)	3	R 325.10717
Oxamyl (vydate)	2	R 325.10604d(1)	3	R 325.10717
Pentachlorophenol	2	R 325.10604d(1)	3	R 325.10717
Picloram	2	R 325.10604d(1)	3	R 325.10717
Polychlorinated biphenyls [PCBs]	2	R 325.10604d(1)	3	R 325.10717

Contaminant	MCL/MRDL/TT violations [1]		Monitoring, testing, & reporting procedure violations	
	Tier of public notice required	Citation	Tier of public notice required	Citation
Simazine	2	R 325.10604d(1)	3	R 325.10717
Toxaphene	2	R 325.10604d(1)	3	R 325.10717
E. Volatile organic chemicals (VOC)				
Benzene	2	R 325.10604b(1)	3	R 325.10716
Carbon tetrachloride	2	R 325.10604b(1)	3	R 325.10716
Chlorobenzene (monochloro-benzene)	2	R 325.10604b(1)	3	R 325.10716
O-dichlorobenzene	2	R 325.10604b(1)	3	R 325.10716
P-dichlorobenzene	2	R 325.10604b(1)	3	R 325.10716
1,2-dichloroethane	2	R 325.10604b(1)	3	R 325.10716
1,1-dichloroethylene	2	R 325.10604b(1)	3	R 325.10716
Cis-1,2-dichloroethylene	2	R 325.10604b(1)	3	R 325.10716
Trans-1,2-dichloroethylene	2	R 325.10604b(1)	3	R 325.10716
Dichloromethane	2	R 325.10604b(1)	3	R 325.10716
1,2-dichloropropane	2	R 325.10604b(1)	3	R 325.10716
Ethylbenzene	2	R 325.10604b(1)	3	R 325.10716
Styrene	2	R 325.10604b(1)	3	R 325.10716
Tetrachloro-ethylene	2	R 325.10604b(1)	3	R 325.10716
Toluene	2	R 325.10604b(1)	3	R 325.10716
1,2,4-trichlorobenzene	2	R 325.10604b(1)	3	R 325.10716
1,1,1-trichloroethane	2	R 325.10604b(1)	3	R 325.10716
1,1,2-trichloroethane	2	R 325.10604b(1)	3	R 325.10716
Trichloroethylene	2	R 325.10604b(1)	3	R 325.10716
Vinyl chloride	2	R 325.10604b(1)	3	R 325.10716
Xylenes (total)	2	R 325.10604b(1)	3	R 325.10716
F. Radioactive contaminants				
Beta/photon emitters	2	R 325.10603(2)(c)	3	R 325.10605 R 325.10725 R 325.10730
Alpha emitters (gross alpha)	2	R 325.10603(2)(b)	3	R 325.10605 R 325.10725 R 325.10726 R 325.10728 R 325.10729
Combined radium (226 & 228)	2	R 325.10603(2)(a)	3	R 325.10605 R 325.10725 R 325.10726 R 325.10728 R 325.10729
Uranium (pCi/L)	2	R 325.10603(2)(d)	3	R 325.10605 R 325.10725 R 325.10726 R 325.10728 R 325.10729

Contaminant	MCL/MRDL/TT violations [1]		Monitoring, testing, & reporting procedure violations	
	Tier of public notice required	Citation	Tier of public notice required	Citation
G. Disinfection byproducts (DBP), byproduct precursors, disinfectant residuals. Where disinfection is used in the treatment of drinking water, disinfectants combine with organic and inorganic matter present in water to form chemicals called disinfection byproducts (DBP). The department sets standards for controlling the levels of disinfectants and DBPs in drinking water, including trihalomethanes (THM) and haloacetic acids (HAA). See R 325.10610 to R 325.10610d, and R 325.10719e to R 325.10719n for disinfection byproduct MCLs, disinfectant MRDLs, and related monitoring requirements.				
Total trihalomethanes (TTHM)	2	R 325.10610(2) R 325.10610b(2)(a)	3	R 325.10610d, R 325.10719e(1) and (2)(a), and R 325.10719h to R 325.10719n
Haloacetic acids (HAA)	2	R 325.10610(2) R 325.10610b(2)(a)	3	R 325.10610d, R 325.10719e(1) and (2)(a), and R 325.10719h to R 325.10719n
Bromate	2	R 325.10610 R 325.10610b(2)(b)	3	R 325.10719e(1) and (2)(c)
Chloramine (MRDL)	2	R 325.10610a R 325.10610b(3)(a)	3	R 325.10719e(1) and (3)
Chlorine (MRDL)	2	R 325.10610a R 325.10610b(3)(a)	3	R 325.10719e(1) and (3)
Chlorite	2	R 325.10610 R 325.10610b(2)(c)	3	R 325.10719e(1) and (2)(b)
Chlorine dioxide (MRDL), where any 2 consecutive daily samples at entrance to distribution system only are above MRDL	2	R 325.10610a R 325.10610b(3)(b)(ii)	2 *, 3	R 325.10719e(1), (3)(b)(i) and (iii)
	* Failure to monitor for chlorine dioxide at the entrance to the distribution system the day after exceeding the MRDL at the entrance to the distribution system is a tier 2 violation.			
Chlorine dioxide (MRDL), where sample(s) in distribution system the next day are also above MRDL	1 *	R 325.10610a R 325.10610b(3)(b)(i)	1	R 325.10719e(1), (3)(b)(ii) and (iii)
	* If any daily sample taken at the entrance to the distribution system exceeds the MRDL for chlorine dioxide and 1 or more samples taken in the distribution system the next day exceed the MRDL, tier 1 notification is required. Failure to take the required samples in the distribution system after the MRDL is exceeded at the entry point also triggers tier 1 notification.			
Control of DBP precursors—TOC (TT)	2	R 325.10610b(4) R 325.10610c	3	R 325.10719e(1) and (4)
Bench marking and disinfection profiling	N/A	N/A	3	R 325.10722
Development of monitoring plan	N/A	N/A	3	R 325.10719e(5)
H. Other treatment techniques				
Acrylamide (TT)	2	R 325.10604e	N/A	N/A
Epichlorohydrin (TT)	2	R 325.10604e	N/A	N/A
II. Other monitoring:				
Unregulated contaminants	N/A	N/A	3	40 CFR §141.40 [5]
Nickel	N/A	N/A	3	R 325.10710(4), (5), and (9)

Contaminant	MCL/MRDL/TT violations [1]		Monitoring, testing, & reporting procedure violations	
	Tier of public notice required	Citation	Tier of public notice required	Citation
III. Public notification for variances and exemptions:				
Operation under a variance or exemption	3	R 325.10302	N/A	N/A
Violation of conditions of a variance or exemption	2	R 325.10312	N/A	N/A
IV. Other situations requiring public notification:				
Fluoride level above 2.0 mg/l	3	R 325.10408a(1)	N/A	N/A
Exceedance of nitrate MCL for noncommunity supplies, as allowed by the department	1	R 325.10604c(3)	N/A	N/A
Availability of unregulated contaminant monitoring data	3	R 325.10407	N/A	N/A
Waterborne disease outbreak	1	R 325.10734(4)	N/A	N/A
Source water sample positive for Fecal Indicator: E.coli, enterococci, or coliphage	1	R 325.10739(6)	N/A	N/A
Other waterborne emergencies and other situations as determined by the department	1 or 2 or 3 *	N/A	N/A	N/A
	* Waterborne emergencies require a tier 1 public notice. The department may place other situations in any tier it determines appropriate, based on threat to public health.			

[1]MCL - Maximum contaminant level, MRDL - maximum residual disinfectant level, TT - treatment technique.

[2]Failure to test for fecal coliform or E. coli is a tier 1 violation if testing is not done after any repeat sample tests positive for coliform. All other total coliform monitoring and testing procedure violations are tier 3.

[3]Supplies with treatment technique violations involving a single exceedance of a maximum turbidity limit under R 325.10611b(1) are required to initiate consultation with the department within 24 hours after learning of the violation. Based on this consultation, the department may subsequently decide to elevate the violation to tier 1. If a supply is unable to make contact with the department in the 24-hour period, the violation is automatically elevated to tier 1.

[4]Failure to take a confirmation sample within 24 hours for nitrate or nitrite after an initial sample exceeds the MCL is a tier 1 violation. Other monitoring violations for nitrate are tier 3.

[5]Title 40 CFR part 141 Section 40, being 40 CFR §141.40, (2014), which pertains to Unregulated Contaminant Monitoring, is contained in Title 40 CFR parts 136 to 149 and is available for purchase for $67.00 from the superintendent of documents at the address in R 325.10116. The material is available for inspection from the offices of the department at the address in R 325.10116(a) or available on the Internet at http://www.ecfr.gov/.
History: 2003 AACS; 2005 AACS; 2009 AACS; 2015 MR 20, Eff. Oct. 16, 2015.

R 325.10402 Tier 1 public notice; form, manner, and frequency of notice.
Rule 402. (1) A tier 1 public notice is required for all of the following violation categories and other situations in a community or noncommunity water supply that is subject to R 325.10401a:

(a) Violation of the MCL for total coliforms when fecal coliform or E. coli are present in the water distribution system as specified in R 325.10602, or when the water supply fails to test for fecal coliforms or E. coli when a repeat sample tests positive for coliform as specified in R 325.10707. Violation of the MCL for E. coli, as specified in R 325.10602.
(b) Violation of the MCL for nitrate, nitrite, or total nitrate and nitrite, as defined in R 325.10604c, or when the water supply fails to take a confirmation sample within 24 hours of the water supply's receipt of the first sample result showing an exceedance of the nitrate or nitrite MCL, as specified in R 325.10710(9)(b).
(c) Exceedance of the nitrate MCL by noncommunity water supplies, where permitted to exceed the MCL by the department, as required under R 325.10408b.
(d) Violation of the MRDL for chlorine dioxide, as defined in R 325.10610a(1), when 1 or more samples taken in the distribution system the day following an exceedance of the MRDL at the entrance of the distribution system exceed the MRDL, or when the water supply does not take the required samples in the distribution system, as specified in R 325.10610b(3)(b).
(e) Violation of the treatment technique requirement resulting from a single exceedance of the maximum allowable turbidity limit under R 325.10611b(1) as identified in table 1 of R 325.10401a, where the department determines after consultation that a tier 1 notice is required or where consultation does not take place within 24 hours after the supply learns of the violation.
(f) Occurrence of a waterborne disease outbreak or other waterborne emergency, such as a failure or significant interruption in key water treatment processes, a natural disaster that disrupts the water supply or distribution system, or a chemical spill or unexpected loading of possible pathogens into the source water that significantly increases the potential for drinking water contamination.
(g) Detection of E. coli, enterococci, or coliphage in source water samples as specified in R 325.10739(1) and (2).
(h) Other violations or situations with significant potential to have serious adverse effects on human health as a result of short-term exposure, as determined by the department either in these rules or on a case-by-case basis. The tier assignment for each specific violation or situation is listed in table 1 of R 325.10401a.
(2) A tier 1 public notice shall be provided under all the following provisions:
(a) Water supplies shall provide the public notice as soon as practical but not later than 24 hours after the supply learns of the violation or situation.
(b) The water supply shall initiate consultation with the department as soon as practical, but not later than 24 hours after the supply learns of the violation or situation, to determine additional public notice requirements.
(c) The water supply shall comply with additional public notification requirements, including repeat notices or direction on the duration of the posted notices, established as a result of consultation with the department. These additional requirements may include the timing, form, manner, frequency, and content of applicable repeat notices, and other actions designed to reach all persons served.
(3) Water supplies shall provide the notice within 24 hours in a form and manner reasonably calculated to reach all persons served. The form and manner used by the supply are to fit the specific situation, but shall be designed to reach residential, transient, and nontransient users of the supply. To reach all persons served, supplies shall use, at a minimum, 1 or more of the following forms of delivery:
(a) Appropriate broadcast media, such as radio and television.
(b) Posting of the notice in conspicuous locations throughout the area served by the supply.
(c) Hand delivery of the notice to persons served by the system.
(d) Another delivery method approved, in writing, by the department.
History: 1979 AC; 1989 AACS; 2003 AACS; 2009 AACS; 2015 MR 20, Eff. Oct. 16, 2015.

R 325.10403 Tier 2 public notice; form, manner, and frequency of notice.
Rule 403. (1) A tier 2 public notice is required for all of the following violations and situations in a community or noncommunity water supply that is subject to R 325.10401a:
(a) All violations of the MCL, MRDL, and treatment technique requirements, except where a tier 1 notice is required under R 325.10402(1) or where the department determines that a tier 1 notice is required.
(b) Violations of the monitoring and testing procedure requirements, where the department determines that a tier 2 rather than a tier 3 public notice is required, taking into account potential health impacts and persistence of the violation.
(c) Failure to comply with the terms and conditions of a variance or exemption in place. The tier assignment for each specific violation or situation is listed in table 1 of R 325.10401a.
(d) Failure to take corrective action or failure to maintain at least 4-log treatment of viruses, using inactivation, removal, or a department-approved combination of 4-log virus inactivation and removal, before or at the first customer under R 325.10612a(1).
(2) A tier 2 public notice shall be provided under all the following provisions:

(a) Supplies shall provide the public notice as soon as practical, but not later than 30 days after the supply learns of the violation or situation. If the public notice is posted, the notice shall remain in place for as long as the violation or situation exists, but not for less than 7 days, even if the violation or situation is resolved. The department may, on a case-by-case basis, allow additional time for the initial notice of up to 3 months from the date the supply learns of the violation or situation. Circumstances that may warrant an extension include coordination with billing cycles for mailing purposes and violations that were quickly resolved and no longer pose any risk to persons served. The department shall not grant an extension to the 30-day deadline for an unresolved violation. Extensions granted by the department shall be in writing.
(b) The supply shall repeat the notice every 3 months as long as the violation or situation exists, unless the department determines that appropriate circumstances warrant a different repeat notice frequency. The repeat notice shall not be given less frequently than once per year. The department shall not allow less frequent repeat notice for an MCL or treatment technique violation of total coliform provisions under R 325.10602, R 325.10704, R 325.10704a to R 325.10704k, and R 325.10705 to R 325.10709 or a treatment technique violation of filtration or disinfection under R 325.10611, R 325.10611a, or R 325.10611b. The department may, on a case-by-case basis, reduce the repeat notice frequency for other ongoing violations requiring a tier 2 repeat notice. Circumstances that may warrant a reduction in frequency include coordination with billing cycles for mailing purposes and consolidating notices for violations and situations occurring within a given year into an annual notice to provide for more effective communication with the consumer. Department determinations allowing repeat notices to be given less frequently than once every 3 months shall be in writing.
(c) For the turbidity violations specified in this subdivision, supplies shall consult with the department as soon as practical but not later than 24 hours after the supply learns of the violation, to determine whether a tier 1 public notice under R 325.10402(1) is required to protect public health. When consultation does not take place within the 24-hour period, the supply shall distribute a tier 1 notice of the violation within the next 24 hours, which shall be not more than 48 hours after the supply learns of the violation, and shall follow the requirements under R 325.10402(2) and (3). Consultation with the department is required for violations of the treatment technique requirement under R 325.10611 resulting from a single exceedance of the maximum allowable turbidity limit under R 325.10611b.
(3) Supplies shall provide the initial tier 2 public notice and applicable repeat notices in a form and manner that is reasonably calculated to reach persons served in the required time period. The form and manner of the public notice may vary based on the specific situation and type of supply, but it shall, at a minimum, meet all of the following requirements:
(a) Unless directed otherwise by the department, in writing, community water supplies shall provide notice by using both of the following forms of delivery:
(i) Mail or other direct delivery to each customer receiving a bill and to other service connections to which water is delivered by the supply.
(ii) Other methods reasonably calculated to reach other persons regularly served by the supply, if they would not normally be reached by the notice required in paragraph (i) of this subdivision. Other persons served may include those who do not pay water bills or do not have service connection addresses, such as house renters, apartment dwellers, university students, nursing home patients, and prison inmates. Other methods may include any of the following:
(A) Publication in a local newspaper.
(B) Delivery of multiple copies for distribution by customers that provide their drinking water to others, such as apartment building owners or large private employers.
(C) Posting in public places served by the system or on the internet.
(D) Delivery to community organizations.
(b) Unless directed otherwise by the department, in writing, noncommunity water supplies shall use both of the following forms of delivery:
(i) Posting the notice in conspicuous locations throughout the distribution system frequented by persons served by the system, or mailing or directly delivering to each customer and service connection, where known.
(ii) Other methods reasonably calculated to reach other persons served by the system if they would not normally be reached by the notice required in paragraph (i) of this subdivision. Other persons served may include those who may not see a posted notice because the notice is not in a location they routinely pass by. Other methods may include any of the following:
(A) Publication in a local newspaper or newsletter distributed to customers.
(B) Use of e-mail to notify employees or students.
(C) Delivery of multiple copies in central locations, such as community centers.
History: 1979 AC; 1989 AACS; 1991 AACS; 1993 AACS; 2003 AACS; 2009 AACS; 2015 MR 20, Eff. Oct. 16, 2015.

R 325.10404 Tier 3 public notice; form, manner, and frequency of notice.
Rule 404. (1) A tier 3 public notice is required for all of the following violation categories and other situations in a community or noncommunity water supply that is subject to R 325.10401a:
(a) Monitoring violations under part 7 of these rules, except where a tier 1 notice is required under R 325.10402(1) or where the department determines that a tier 2 notice is required.
(b) Failure to comply with a testing procedure established in part 6 of these rules, except where a tier 1 notice is required under R 325.10402(1) or where the department determines that a tier 2 notice is required.
(c) Operation under a variance or exemption granted under section 20 of the safe drinking water act, 1976 PA 399, MCL 325.1020 and part 3 of these rules.
(d) Availability of unregulated contaminant monitoring results, as required under R 325.10407.
(e) Fluoride level above 2.0 mg/l as specified in R 325.10408a.The tier assignment for each specific violation or situation is listed in table 1 of R 325.10401a.
(f) Reporting and recordkeeping violations under total coliform provisions of R 325.10704a to R 325.10704k.
(2) A tier 3 public notice shall be provided under all the following provisions:
(a) Supplies shall provide the public notice not later than 1 year after the supply learns of the violation or situation or begins operating under a variance or exemption. Following the initial notice, the supply shall repeat the notice annually for as long as the violation, variance, exemption, or other situation exists. If the public notice is posted, the notice shall remain in place for as long as the violation, variance, exemption, or other situation exists, but for not less than 7 days, even if the violation or situation is resolved.
(b) Instead of individual tier 3 public notices, a supply may use an annual report detailing all violations and situations that occurred during the previous 12 months, as long as the timing requirements of subdivision (a) of this subrule are met.
(3) Supplies shall provide the initial tier 3 public notice and applicable repeat notices in a form and manner that is reasonably calculated to reach persons served in the required time period. The form and manner of the public notice may vary based on the specific situation and type of supply, but it shall, at a minimum, meet all of the following requirements:
(a) Unless directed otherwise by the department, in writing, community water supplies shall provide notice by using both of the following forms of delivery:
(i) Mail or other direct delivery to each customer receiving a bill and to other service connections to which water is delivered by the community supply.
(ii) Other methods reasonably calculated to reach other persons regularly served by the community supply, if they would not normally be reached by the notice required in paragraph (i) of this subdivision. Other persons served may include those who do not pay water bills or do not have service connection addresses, such as house renters, apartment dwellers, university students, nursing home patients, and prison inmates. Other methods may include any of the following:
(A) Publication in a local newspaper.
(B) Delivery of multiple copies for distribution by customers that provide their drinking water to others, such as apartment building owners or large private employers.
(C) Posting in public places served by the community supply or on the internet.
(D) Delivery to community organizations.
(b) Unless directed otherwise by the department, in writing, noncommunity water supplies shall provide notice by using both of the following forms of delivery:
(i) Posting the notice in conspicuous locations throughout the distribution system frequented by persons served by the noncommunity supply or mailing or directly delivering to each customer and service connection, where known.
(ii) Other methods reasonably calculated to reach other persons served by the noncommunity supply if they would not normally be reached by the notice required in paragraph (i) of this subdivision. Other persons served may include those who may not see a posted notice because the notice is not in a location they routinely pass by. Other methods may include any of the following:
(A) Publication in a local newspaper or newsletter distributed to customers.
(B) Use of e-mail to notify employees or students.
(C) Delivery of multiple copies in central locations, such as community centers.
(4) For community water supplies, the consumer confidence report (CCR) required under R 325.10411 to R 325.10415 may be used as a vehicle for the initial tier 3 public notice and all required repeat notices, if all of the following requirements are satisfied:
(a) The CCR is provided to persons served not later than 12 months after the community water supply learns of the violation or situation as required under subrule (2) of this rule.

(b) The tier 3 notice contained in the CCR follows the content requirements under R 325.10405.
(c) The CCR is distributed following the delivery requirements under subrule (3) of this rule.
History: 1979 AC; 1989 AACS; 1991 AACS; 2003 AACS; 2009 AACS; 2015 MR 20, Eff. Oct. 16, 2015.

R 325.10405 Content of public notice.
Rule 405. (1) If a community or noncommunity water supply that is subject to R 325.10401a has a violation or situation requiring public notification, then each public notice shall include all of the following elements:
(a) A description of the violation or situation, including the contaminant or contaminants of concern, and, as applicable, the contaminant level or levels.
(b) When the violation or situation occurred.
(c) The potential adverse health effects from the violation or situation, including the standard language under subrule (4)(a) or (4)(b) of this rule, whichever is applicable.
(d) The population at risk, including subpopulations particularly vulnerable if exposed to the contaminant in their drinking water.
(e) If alternative water supplies should be used.
(f) What actions consumers should take, including when they should seek medical help, if known.
(g) What the supply is doing to correct the violation or situation.
(h) When the supply expects to return to compliance or resolve the situation.
(i) The name, business address, and phone number of the supply or designee of the supply as a source of additional information concerning the notice.
(j) A statement to encourage the notice recipient to distribute the public notice to other persons served, using the standard language under subrule (4)(c) of this rule, where applicable.
(2) All of the following elements shall be included in the public notice for public water supplies operating under a variance or exemption:
(a) If a public water supply has been granted a variance or an exemption, then the public notice shall contain all of the following elements:
(i) An explanation of the reasons for the variance or exemption.
(ii) The date on which the variance or exemption was issued.
(iii) A brief status report on the steps the supply is taking to install treatment, find alternative sources of water, or otherwise comply with the terms and schedules of the variance or exemption.
(iv) A notice of opportunities for public input in the review of the variance or exemption.
(b) If a public water supply violates the conditions of a variance or exemption, then the public notice shall contain the 10 elements listed in subrule (1) of this rule.
(3) The public notice shall be presented in the following manner:
(a) Each public notice required by this part shall meet all of the following criteria:
(i) Shall be displayed in a conspicuous way when printed or posted.
(ii) Shall not contain overly technical language or very small print.
(iii) Shall not be formatted in a way that defeats the purpose of the notice.
(iv) Shall not contain language which nullifies the purpose of the notice.
(b) In communities where more than 10% of the consumers are non English speaking consumers, the public notice shall contain information in the appropriate language or languages regarding the importance of the notice or contain a telephone number or address where persons served may contact the supply to obtain a translated copy of the notice or to request assistance in the appropriate language.
(4) The supply shall include the following standard language in the public notice:
(a) The supply shall include in each public notice the health effects language specified in table 1 of this rule corresponding to each MCL, MRDL, and treatment technique violation listed in table 1 of R 325.10401a, and for each violation of a condition of a variance or exemption.
(b) The supply shall include the following language in the notice, including the language necessary to fill in the blanks, for all monitoring and testing procedure violations listed in table 1 of R 325.10401a: "We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not your drinking water meets health standards. During [compliance period], we 'did not monitor or test' or 'did not complete all monitoring or testing' for [contaminant or contaminants], and therefore cannot be sure of the quality of your drinking water during that time."
(c) The supply shall include in the notice the following language, where applicable, to encourage the distribution of the public notice to all persons served: "Please share this information with all the other people who drink this water,

especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses).You can do this by posting this notice in a public place or distributing copies by hand or mail."

Table 1 Regulated contaminants

AL=Action level
MCL=Maximum contaminant level
MCLG=Maximum contaminant level goal
mfl=Million fibers per liter
MRDL=Maximum residual disinfectant level
MRDLG=Maximum residual disinfectant level goal
mrem/year=Millirems per year (a measure of radiation absorbed by the body)
N/A=Not applicable
NTU=Nephelometric turbidity units (a measure of water clarity)
pci/l=Picocuries per liter (a measure of radioactivity)
ppm=Parts per million, or milligrams per liter (mg/l)
ppb=Parts per billion, or micrograms per liter (µg/l)
ppt=Parts per trillion, or nanograms per liter
ppq=Parts per quadrillion, or picograms per liter
TT=Treatment technique

Contaminant in CCR units	Traditional MCL in mg/l, except where noted	To convert for CCR, multiply by	MCL in CCR units	MCLG in CCR units	Major sources in drinking water	Health effects language
Microbiological contaminants						
Total coliform bacteria until March 31, 2016	MCL: For water supplies analyzing 40 or more samples per month, not more than 5.0% of the monthly samples may be positive for total coliform. For supplies analyzing fewer than 40 samples per month, not more than 1 sample per month may be positive for total coliform.			zero	Naturally present in the environment	Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems.
Total coliform bacteria beginning April 1, 2016. This row applies to Consumer Confidence Reporting.	TT	No conversion necessary	TT	N/A	Naturally present in the environment	Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system.
Fecal coliform and E. coli until March 31, 2016	zero	No conversion necessary	zero	zero	Human and animal fecal waste	Fecal coliforms and E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, some of the elderly, and people with severely compromised immune systems.
E. coli beginning April 1, 2016	MCL: Routine and repeat samples are total coliform-positive and either is E. coli-positive or supply fails to take all required repeat samples following E. coli-positive routine sample or supply fails to analyze total coliform-positive repeat sample for E. coli			zero	Human and animal fecal waste	E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a greater health risk for infants, young children, the elderly, and people with severely-compromised immune systems.

Contaminant in CCR units	Traditional MCL in mg/l, except where noted	To convert for CCR, multiply by	MCL in CCR units	MCLG in CCR units	Major sources in drinking water	Health effects language
Coliform Assessment and/or Corrective Action Violations beginning April 1, 2016. This row applies to public notification. For Consumer Confidence Reporting, see R 325.10413(12)(g)(i).	N/A	No conversion necessary	TT	N/A	N/A	Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessments to identify problems and to correct any problems that are found. [THE SUPPLY MUST USE ONE OF THE FOLLOWING APPLICABLE SENTENCES:] We failed to conduct the required assessment. We failed to correct all identified sanitary defects that were found during the assessment(s).
E. coli Assessment and/or Corrective Action Violations beginning April 1, 2106. This row applies to public notification. For Consumer Confidence Reporting, see R 325.10413(12)(g)(ii).	N/A	No conversion necessary	TT	N/A	N/A	E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a greater health risk for infants, young children, the elderly, and people with severely compromised immune systems. We violated the standard for E. coli, indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct a detailed assessment to identify problems and to correct any problems that are found. [THE SUPPLY MUST USE ONE OF THE FOLLOWING APPLICABLE SENTENCES:] We failed to conduct the required assessment. We failed to correct all identified sanitary defects that were found during the assessment that we conducted.
Seasonal Supply Treatment Technique Violations of the Total Coliform Rule beginning April 1, 2016.	N/A	No conversion necessary	TT	N/A	N/A	When this violation includes the failure to monitor for total coliforms or E. coli prior to serving water to the public, the mandatory language found at R 325.10405(4)(b) shall be used. When this violation includes failure to complete other actions, the appropriate public notice elements found in R 325.10405(1) shall be used.

Contaminant in CCR units	Traditional MCL in mg/l, except where noted	To convert for CCR, multiply by	MCL in CCR units	MCLG in CCR units	Major sources in drinking water	Health effects language
Fecal indicator under groundwater requirements in R 325.10612 et. al: - E.coli - enterococci or - coliphage)	TT	No conversion necessary	TT	E.coli: zero Others: N/A	Human and animal fecal waste	Fecal indicators are microbes whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term health effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, some of the elderly, and people with severely compromised immune systems.
Violations of rules for ground water supplies subject to R 325.10612	TT	No conversion necessary	TT	N/A	N/A	Inadequately treated or inadequately protected water may contain disease-causing organisms. These organisms can cause symptoms such as diarrhea, nausea, cramps, and associated headaches.
Turbidity (ntu)	TT	No conversion necessary	TT	N/A	Soil runoff	Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.
Other microbiological contaminants						
Giardia lamblia, viruses, heterotrophic plate count (HPC) bacteria, legionella, cryptosporidium	TT*	No conversion necessary	TT*	zero	Naturally present in the environment	Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.
	* The treatment technique violations that involve turbidity exceedances may use health effects language for turbidity instead.					
Inorganic contaminants						
Antimony (ppb)	0.006	1000	6	6	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder	Some people who drink water containing antimony well in excess of the MCL over many years could experience increases in blood cholesterol and decreases in blood sugar.
Arsenic (ppb)	0.010	1000	10	0	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes	Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.

Contaminant in CCR units	Traditional MCL in mg/l, except where noted	To convert for CCR, multiply by	MCL in CCR units	MCLG in CCR units	Major sources in drinking water	Health effects language
Asbestos [fibers longer than 10 µm] (mfl)	7 mfl	No conversion necessary	7	7	Decay of asbestos cement water mains; erosion of natural deposits	Some people who drink water containing asbestos in excess of the MCL over many years may have an increased risk of developing benign intestinal polyps.
Barium (ppm)	2	No conversion necessary	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits	Some people who drink water containing barium in excess of the MCL over many years could experience an increase in their blood pressure.
Beryllium (ppb)	0.004	1000	4	4	Discharge from metal refineries and coal-burning factories; discharge from electrical, aerospace, and defense industries	Some people who drink water containing beryllium well in excess of the MCL over many years could develop intestinal lesions.
Cadmium (ppb)	0.005	1000	5	5	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints	Some people who drink water containing cadmium in excess of the MCL over many years could experience kidney damage.
Chromium [total] (ppb)	0.1	1000	100	100	Discharge from steel and pulp mills; erosion of natural deposits	Some people who use water containing chromium well in excess of the MCL over many years could experience allergic dermatitis.
Cyanide [free] (ppb)	0.2	1000	200	200	Discharge from steel/metal factories; discharge from plastic and fertilizer factories	Some people who drink water containing cyanide well in excess of the MCL over many years could experience nerve damage or problems with their thyroid.
Fluoride (ppm)	4.0	No conversion necessary	4.0	4.0	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories	Some people who drink water containing fluoride in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Fluoride in drinking water at half the MCL or more may cause mottling of children's teeth, usually in children less than 9 years old. Mottling, also known as dental fluorosis, may include brown staining and/or pitting of the teeth, and occurs only in developing teeth before they erupt from the gums.

Contaminant in CCR units	Traditional MCL in mg/l, except where noted	To convert for CCR, multiply by	MCL in CCR units	MCLG in CCR units	Major sources in drinking water	Health effects language
Mercury [inorganic] (ppb)	0.002	1000	2	2	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland	Some people who drink water containing inorganic mercury well in excess of the MCL over many years could experience kidney damage.
Nitrate [as nitrogen] (ppm)	10	No conversion necessary	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits	Infants below the age of 6 months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome.
Nitrite [as nitrogen] (ppm)	1	No conversion necessary	1	1	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits	Infants below the age of 6 months who drink water containing nitrite in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome.
Total nitrate and nitrite [as nitrogen] (ppm)	10	No conversion necessary	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits	Infants below the age of 6 months who drink water containing nitrate and nitrite in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome.
Selenium (ppb)	0.05	1000	50	50	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines	Selenium is an essential nutrient. However, some people who drink water containing selenium in excess of the MCL over many years could experience hair or fingernail losses, numbness in fingers or toes, or problems with their circulation.
Thallium (ppb)	0.002	1000	2	0.5	Leaching from ore-processing sites; discharge from electronics, glass, and drug factories	Some people who drink water containing thallium in excess of the MCL over many years could experience hair loss, changes in their blood, or problems with their kidneys, intestines, or liver.
Lead and copper						
Lead (ppb)	AL=0.015	1000	AL=15 (TT)	zero	Corrosion of household plumbing systems; erosion of natural deposits	Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

Contaminant in CCR units	Traditional MCL in mg/l, except where noted	To convert for CCR, multiply by	MCL in CCR units	MCLG in CCR units	Major sources in drinking water	Health effects language
Copper (ppm)	AL=1.3	No conversion necessary	AL=1.3 (TT)	1.3	Corrosion of household plumbing systems; erosion of natural deposits	Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's disease should consult their personal doctor.
Synthetic organic contaminants including pesticides and herbicides						
2,4-D (ppb)	0.07	1000	70	70	Runoff from herbicide used on row crops	Some people who drink water containing the weed killer 2,4-d well in excess of the MCL over many years could experience problems with their kidneys, liver, or adrenal glands.
2,4,5-TP [silvex] (ppb)	0.05	1000	50	50	Residue of banned herbicide	Some people who drink water containing silvex in excess of the MCL over many years could experience liver problems.
Alachlor (ppb)	0.002	1000	2	zero	Runoff from herbicide used on row crops	Some people who drink water containing alachlor in excess of the MCL over many years could have problems with their eyes, liver, kidneys, or spleen, or experience anemia, and may have an increased risk of getting cancer.
Atrazine (ppb)	0.003	1000	3	3	Runoff from herbicide used on row crops	Some people who drink water containing atrazine well in excess of the MCL over many years could experience problems with their cardiovascular system or reproductive difficulties.
Benzo(a)pyrene [PAHs] (ppt)	0.0002	1,000,000	200	zero	Leaching from linings of water storage tanks and distribution lines	Some people who drink water containing benzo(a)pyrene in excess of the MCL over many years may experience reproductive difficulties and may have an increased risk of getting cancer.
Carbofuran (ppb)	0.04	1000	40	40	Leaching of soil fumigant used on rice and alfalfa	Some people who drink water containing carbofuran in excess of the MCL over many years could experience problems with their blood or nervous or reproductive systems.
Chlordane (ppb)	0.002	1000	2	zero	Residue of banned termiticide	Some people who drink water containing chlordane in excess of the mcl over many years could experience problems with their liver or nervous system, and may have an increased risk of getting cancer.

Contaminant in CCR units	Traditional MCL in mg/l, except where noted	To convert for CCR, multiply by	MCL in CCR units	MCLG in CCR units	Major sources in drinking water	Health effects language
Dalapon (ppb)	0.2	1000	200	200	Runoff from herbicide used on rights of way	Some people who drink water containing dalapon well in excess of the MCL over many years could experience minor kidney changes.
Di(2-ethylhexyl) adipate (ppb)	0.4	1000	400	400	Discharge from chemical factories	Some people who drink water containing di (2-ethylhexyl) adipate well in excess of the MCL over many years could experience toxic effects such as weight loss, liver enlargement, or possible reproductive difficulties.
Di(2-ethylhexyl) phthalate (ppb)	0.006	1000	6	zero	Discharge from rubber and chemical factories	Some people who drink water containing di (2-ethylhexyl) phthalate well in excess of the MCL over many years may have problems with their liver, or experience reproductive difficulties, and may have an increased risk of getting cancer.
Dibromochloropropane [DBCP] (ppt)	0.0002	1,000,000	200	zero	Runoff/leaching from soil fumigant used on soybeans, cotton, pineapples, and orchards	Some people who drink water containing DBCP in excess of the MCL over many years could experience reproductive difficulties and may have an increased risk of getting cancer.
Dinoseb (ppb)	0.007	1000	7	7	Runoff from herbicide used on soybeans and vegetables	Some people who drink water containing dinoseb well in excess of the MCL over many years could experience reproductive difficulties.
Dioxin [2,3,7,8-TCDD] (ppq)	0.00000003	1,000,000,000	30	zero	Emissions from waste incineration and other combustion; discharge from chemical factories	Some people who drink water containing dioxin in excess of the MCL over many years could experience reproductive difficulties and may have an increased risk of getting cancer.
Diquat (ppb)	0.02	1000	20	20	Runoff from herbicide use	Some people who drink water containing diquat in excess of the MCL over many years could get cataracts.
Endothall (ppb)	0.1	1000	100	100	Runoff from herbicide use	Some people who drink water containing endothall in excess of the MCL over many years could experience problems with their stomach or intestines.
Endrin (ppb)	0.002	1000	2	2	Residue of banned insecticide	Some people who drink water containing endrin in excess of the MCL over many years could experience liver problems.
Ethylene dibromide (ppt)	0.00005	1,000,000	50	zero	Discharge from petroleum refineries	Some people who drink water containing ethylene dibromide in excess of the MCL over many years could experience problems with their liver, stomach, reproductive system, or kidneys, and may have an increased risk of getting cancer.

Contaminant in CCR units	Traditional MCL in mg/l, except where noted	To convert for CCR, multiply by	MCL in CCR units	MCLG in CCR units	Major sources in drinking water	Health effects language
Glyphosate (ppb)	0.7	1000	700	700	Runoff from herbicide use	Some people who drink water containing glyphosate in excess of the MCL over many years could experience problems with their kidneys or reproductive difficulties.
Heptachlor (ppt)	0.0004	1,000,000	400	zero	Residue of banned pesticide	Some people who drink water containing heptachlor in excess of the MCL over many years could experience liver damage and may have an increased risk of getting cancer.
Heptachlor epoxide (ppt)	0.0002	1,000,000	200	zero	Breakdown of heptachlor	Some people who drink water containing heptachlor epoxide in excess of the MCL over many years could experience liver damage, and may have an increased risk of getting cancer.
Hexachlorobenzene (ppb)	0.001	1000	1	zero	Discharge from metal refineries and agricultural chemical factories	Some people who drink water containing hexachlorobenzene in excess of the MCL over many years could experience problems with their liver or kidneys, or adverse reproductive effects, and may have an increased risk of getting cancer.
Hexachlorocyclopentadiene (ppb)	0.05	1000	50	50	Discharge from chemical factories	Some people who drink water containing hexachlorocyclopentadiene well in excess of the MCL over many years could experience problems with their kidneys or stomach.
lindane (ppt)	0.0002	1,000,000	200	200	Runoff/leaching from insecticide used on cattle, lumber, gardens	Some people who drink water containing lindane in excess of the MCL over many years could experience problems with their kidneys or liver.
Methoxychlor (ppb)	0.04	1000	40	40	Runoff/leaching from insecticide used on fruits, vegetables, alfalfa, livestock	Some people who drink water containing methoxychlor in excess of the MCL over many years could experience reproductive difficulties.
Oxamyl [vydate] (ppb)	0.2	1000	200	200	Runoff/leaching from insecticide used on apples, potatoes, and tomatoes	Some people who drink water containing oxamyl in excess of the MCL over many years could experience slight nervous system effects.
Pentachlorophenol (ppb)	0.001	1000	1	zero	Discharge from wood preserving factories	Some people who drink water containing pentachlorophenol in excess of the MCL over many years could experience problems with their liver or kidneys, and may have an increased risk of getting cancer.
Picloram (ppb)	0.5	1000	500	500	Herbicide runoff	Some people who drink water containing picloram in excess of the MCL over many years could experience problems with their liver.

Contaminant in CCR units	Traditional MCL in mg/l, except where noted	To convert for CCR, multiply by	MCL in CCR units	MCLG in CCR units	Major sources in drinking water	Health effects language
Polychlorinated biphenyls [PCBs] (ppt)	0.0005	1,000,000	500	zero	Runoff from landfills; discharge of waste chemicals	Some people who drink water containing PCBs in excess of the MCL over many years could experience changes in their skin, problems with their thymus gland, immune deficiencies, or reproductive or nervous system difficulties, and may have an increased risk of getting cancer.
Simazine (ppb)	0.004	1000	4	4	Herbicide runoff	Some people who drink water containing simazine in excess of the MCL over many years could experience problems with their blood.
Toxaphene (ppb)	0.003	1000	3	zero	Runoff/leaching from insecticide used on cotton and cattle	Some people who drink water containing toxaphene in excess of the MCL over many years could have problems with their kidneys, liver, or thyroid, and may have an increased risk of getting cancer.
Volatile organic contaminants						
Benzene (ppb)	0.005	1000	5	zero	Discharge from factories; leaching from gas storage tanks and landfills	Some people who drink water containing benzene in excess of the MCL over many years could experience anemia or a decrease in blood platelets, and may have an increased risk of getting cancer.
Carbon tetrachloride (ppb)	0.005	1000	5	zero	Discharge from chemical plants and other industrial activities	Some people who drink water containing carbon tetrachloride in excess of the MCL over many years could experience problems with their liver and may have an increased risk of getting cancer.
Chlorobenzene (ppb)	0.1	1000	100	100	Discharge from chemical and agricultural chemical factories	Some people who drink water containing chlorobenzene in excess of the MCL over many years could experience problems with their liver or kidneys.
O-dichlorobenzene (ppb)	0.6	1000	600	600	Discharge from industrial chemical factories	Some people who drink water containing o-dichlorobenzene well in excess of the MCL over many years could experience problems with their liver, kidneys, or circulatory systems.
P-dichlorobenzene (ppb)	0.075	1000	75	75	Discharge from industrial chemical factories	Some people who drink water containing p-dichlorobenzene in excess of the MCL over many years could experience anemia, damage to their liver, kidneys, or spleen, or changes in their blood.
1,2-dichloroethane (ppb)	0.005	1000	5	zero	Discharge from industrial chemical factories	Some people who drink water containing 1,2-dichloroethane in excess of the MCL over many years may have an increased risk of getting cancer.

Contaminant in CCR units	Traditional MCL in mg/l, except where noted	To convert for CCR, multiply by	MCL in CCR units	MCLG in CCR units	Major sources in drinking water	Health effects language
1,1-dichloroethylene (ppb)	0.007	1000	7	7	Discharge from industrial chemical factories	Some people who drink water containing 1,1-dichloroethylene in excess of the MCL over many years could experience problems with their liver.
Cis-1,2-dichloroethylene (ppb)	0.07	1000	70	70	Discharge from industrial chemical factories	Some people who drink water containing cis-1,2-dichloroethylene in excess of the MCL over many years could experience problems with their liver.
Trans-1,2-dichloroethylene (ppb)	0.1	1000	100	100	Discharge from industrial chemical factories	Some people who drink water containing trans-1,2-dichloroethylene well in excess of the MCL over many years could experience problems with their liver.
Dichloromethane (ppb)	0.005	1000	5	zero	Discharge from pharmaceutical and chemical factories	Some people who drink water containing dichloromethane in excess of the MCL over many years could have liver problems and may have an increased risk of getting cancer.
1,2-dichloropropane (ppb)	0.005	1000	5	zero	Discharge from industrial chemical factories	Some people who drink water containing 1,2-dichloropropane in excess of the MCL over many years may have an increased risk of getting cancer.
Ethylbenzene (ppb)	0.7	1000	700	700	Discharge from petroleum refineries	Some people who drink water containing ethylbenzene well in excess of the MCL over many years could experience problems with their liver or kidneys.
Styrene (ppb)	0.1	1000	100	100	Discharge from rubber and plastic factories; leaching from landfills	Some people who drink water containing styrene well in excess of the MCL over many years could have problems with their liver, kidneys, or circulatory system.
Tetrachloro-ethylene (ppb)	0.005	1000	5	Zero	Discharge from factories and dry cleaners	Some people who drink water containing tetrachloroethylene in excess of the MCL over many years could have problems with their liver, and may have an increased risk of getting cancer.
Toluene (ppm)	1	No conversion necessary	1	1	Discharge from petroleum factories	Some people who drink water containing toluene well in excess of the MCL over many years could have problems with their nervous system, kidneys, or liver.
1,2,4-trichlorobenzene (ppb)	0.07	1000	70	70	Discharge from textile-finishing factories	Some people who drink water containing 1,2,4-trichlorobenzene well in excess of the MCL over many years could experience changes in their adrenal glands.
1,1,1-trichloroethane (ppb)	0.2	1000	200	200	Discharge from metal degreasing sites and other factories	Some people who drink water containing 1,1,1-trichloroethane in excess of the MCL over many years could experience problems with their liver, nervous system, or circulatory system.

Contaminant in CCR units	Traditional MCL in mg/l, except where noted	To convert for CCR, multiply by	MCL in CCR units	MCLG in CCR units	Major sources in drinking water	Health effects language
1,1,2-trichloroethane (ppb)	0.005	1000	5	3	Discharge from industrial chemical factories	Some people who drink water containing 1,1,2-trichloroethane well in excess of the MCL over many years could have problems with their liver, kidneys, or immune systems.
Trichloroethylene (ppb)	0.005	1000	5	zero	Discharge from metal degreasing sites and other factories	Some people who drink water containing trichloroethylene in excess of the MCL over many years could experience problems with their liver and may have an increased risk of getting cancer.
Vinyl chloride (ppb)	0.002	1000	2	zero	Leaching from PVC piping; discharge from plastics factories	Some people who drink water containing vinyl chloride in excess of the MCL over many years may have an increased risk of getting cancer.
Xylenes [total] (ppm)	10	No conversion necessary	10	10	Discharge from petroleum factories; discharge from chemical factories	Some people who drink water containing xylenes in excess of the MCL over many years could experience damage to their nervous system.
Radioactive contaminants						
Beta/photon emitters (mrem/yr)	4 mrem/yr	No conversion necessary	4	zero	Decay of natural and man-made deposits	Certain minerals are radioactive and may emit forms of radiation known as photons and beta radiation. Some people who drink water containing beta particle and photon radioactivity in excess of the MCL over many years may have an increased risk of getting cancer.
Alpha emitters [gross alpha] (pci/l)	15 pCi/L	No conversion necessary	15	zero	Erosion of natural deposits	Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer.
Combined radium [226 & 228] (pci/l)	5 pCi/L	No conversion necessary	5	zero	Erosion of natural deposits	Some people who drink water containing radium 226 or 228 in excess of the MCL over many years may have an increased risk of getting cancer.
Uranium (pCi/L)	30 ug/L	No conversion necessary	30	Zero	Erosion of natural deposits	Some people who drink water containing uranium in excess of the MCL over many years may have an increased risk of getting cancer and kidney toxicity.
Disinfection byproducts (DBP), byproduct precursors, and disinfectant residuals: where disinfection is used in the treatment of drinking water, disinfectants combine with organic and inorganic matter present in water to form chemicals called disinfection byproducts (DBP). The department sets standards for controlling the levels of disinfectants and DBP in drinking water, including trihalomethanes (THM) and haloacetic acids (HAA). See R 325.10610 to R 325.10610d and R 325.10719e to R 325.10719n for disinfection byproduct MCLs, disinfectant MRDLs, and related monitoring requirements.						
Total trihalomethanes [TTHM] (ppb)	0.080*	1000	80*	N/A	By-product of drinking water disinfection	Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience

Contaminant in CCR units	Traditional MCL in mg/l, except where noted	To convert for CCR, multiply by	MCL in CCR units	MCLG in CCR units	Major sources in drinking water	Health effects language
	* The MCL for total trihalomethanes is the sum of the concentrations of the individual trihalomethanes.					problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer.
Haloacetic acids (HAAs) (ppb)	0.060*	1000	60*	N/A	By-product of drinking water disinfection	Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.
	* The MCL for haloacetic acids is the sum of the concentrations of the individual haloacetic acids.					
Bromate (ppb)	0.010	1000	10	zero	By-product of drinking water disinfection	Some people who drink water containing bromate in excess of the MCL over many years may have an increased risk of getting cancer.
Chloramines (ppm)	MRDL = 4	No conversion necessary	MRDL = 4	MRDLG = 4	Water additive used to control microbes	Some people who use water containing chloramines well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chloramines well in excess of the MRDL could experience stomach discomfort or anemia.
Chlorine (ppm)	MRDL = 4	No conversion necessary	MRDL = 4	MRDLG = 4	Water additive used to control microbes	Some people who use water containing chlorine well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chlorine well in excess of the MRDL could experience stomach discomfort.
Chlorite (ppm)	1	No conversion necessary	1	0.8	By-product of drinking water disinfection	Some infants and young children who drink water containing chlorite in excess of the MCL could experience nervous system effects. Similar effects may occur in fetuses of pregnant women who drink water containing chlorite in excess of the MCL. Some people may experience anemia.

Contaminant in CCR units	Traditional MCL in mg/l, except where noted	To convert for CCR, multiply by	MCL in CCR units	MCLG in CCR units	Major sources in drinking water	Health effects language
Chlorine dioxide (ppb)	MRDL = 0.8	1000	MRDL = 800	MRDLG = 800	Water additive used to control microbes	Some infants and young children who drink water containing chlorine dioxide in excess of the MRDL could experience nervous system effects. Similar effects may occur in fetuses of pregnant women who drink water containing chlorine dioxide in excess of the MRDL. Some people may experience anemia.
	Add the following only to public notification where any 2 consecutive daily samples taken at the entrance to the distribution system are above the MRDL: "The chlorine dioxide violations reported today are the result of exceedances at the treatment facility only, not within the distribution system which delivers water to consumers. Continued compliance with chlorine dioxide levels within the distribution system minimizes the potential risk of these violations to consumers." Add the following only to public notification where 1 or more distribution system samples are above the MRDL: "The chlorine dioxide violations reported today include exceedances of the drinking water standard within the distribution system which delivers water to consumers. Violations of the chlorine dioxide standard within the distribution system may harm human health based on short-term exposures. Certain groups, including fetuses, infants, and young children, may be especially susceptible to nervous system effects from excessive chlorine dioxide exposure."					
Total organic carbon [TOC - control of DBP precursors] (ppm)	TT	No conversion necessary	TT	None	Naturally present in the environment	Total organic carbon (TOC) has no health effects. However, total organic carbon provides a medium for the formation of disinfection byproducts. These byproducts include trihalomethanes (THM) and haloacetic acids (HAA). Drinking water containing these byproducts in excess of the MCL may lead to adverse health effects, liver or kidney problems, or nervous system effects, and may lead to an increased risk of getting cancer.
Other treatment techniques						
Acrylamide	TT	No conversion necessary	TT	zero	Added to water during sewage/ wastewater treatment	Some people who drink water containing high levels of acrylamide over a long period of time could have problems with their nervous system or blood, and may have an increased risk of getting cancer.
Epichlorohydrin	TT	No conversion necessary	TT	zero	Discharge from industrial chemical factories; an impurity of some water treatment chemicals	Some people who drink water containing high levels of epichlorohydrin over a long period of time could experience stomach problems, and may have an increased risk of getting cancer.

History: 1979 AC; 1989 AACS; 2003 AACS; 2005 AACS; 2009 AACS; 2015 MR 20, Eff. Oct. 16, 2015.

R 325.10406
Source: 2009 AACS.

R 325.10407
Source: 2009 AACS.

R 325.10408
Source: 2009 AACS.

R 325.10408a
Source: 2009 AACS.

R 325.10408b
Source: 2009 AACS.

R 325.10408c
Source: 2009 AACS.

R 325.10408d
Source: 2009 AACS.

R 325.10409
Source: 2009 AACS.

R 325.10410
Source: 2009 AACS.

R 325.10411
Source: 2009 AACS.

R 325.10412
Source: 2009 AACS.

R 325.10413 Annual consumer confidence reporting; content of reports.
Rule 413. (1) Each community water supply shall provide to its customers an annual report that contains the information specified in this rule and the information specified in R 325.10414.
(2) Each report shall identify the source or sources of the water delivered by the community water supply by providing information on both of the following:
(a) The type of the water; for example, surface water or ground water.
(b) The commonly used name, if any, and location of the body or bodies of water.
(3) If a source water assessment has been completed, then the report shall notify consumers of the availability of the information and the means to obtain it. In addition, a community supply is encouraged to highlight in the report significant sources of contamination in the source water area if the supply has readily available information. If a supply has received a source water assessment from the department, then the report shall include a brief summary of the supply's susceptibility to potential sources of contamination, using language provided by the department or written by the operator.
(4) Each report shall include both of the following definitions:
(a) "Maximum Contaminant Level Goal" or "MCLG" means the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
(b) "Maximum Contaminant Level" or "MCL" means the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
(5) A report for a community water supply operating under a variance or an exemption issued under section 20 of the act shall include the definition for variances and exemptions. "Variances and exemptions" means state or EPA permission not to meet an MCL or a treatment technique under certain conditions.
(6) A report that contains data on regulated contaminants using any of the following terms shall include the applicable definitions:

(a) "Treatment technique" or "TT" means a required process intended to reduce the level of a contaminant in drinking water.
(b) "Action level" or "AL" means the concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water supply shall follow.
(c) "Maximum residual disinfectant level goal" or "MRDLG" means the level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
(d) "Maximum residual disinfectant level" or "MRDL" means the highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
(7) A report that contains information regarding a level 1 or level 2 assessment required under total coliform provisions of R 325.10704a to R 325.10704k shall include the following applicable definitions:
(a) Level 1 assessment: A level 1 assessment is a study of the water supply to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.
(b) Level 2 assessment: A level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.
(8) The report shall include all of the following information on detected contaminants subject to mandatory monitoring, except Cryptosporidium:
(a) This subrule applies to all of the following contaminants:
(i) Contaminants subject to an MCL, action level, maximum residual disinfectant level, or treatment technique known as regulated contaminants.
(ii) Contaminants for which monitoring is required by 40 CFR §141.40, as referenced in R 325.10401a, known as unregulated contaminants.
(iii) Disinfection byproducts or microbial contaminants for which monitoring is required by 40 C.F.R. §§141.142 and 141.143, except as provided under subrule (9)(a) of this rule, and which are detected in the finished water.
(b) The data relating to the contaminants specified in this subrule shall be displayed in 1 table or in several adjacent tables. Any additional monitoring results that a community supply chooses to include in its report shall be displayed separately.
(c) The data shall be derived from data collected to comply with EPA and state monitoring and analytical requirements during the previous calendar year with the following exceptions:
(i) If a supply is allowed to monitor for regulated contaminants less often than once a year, then the table or tables shall include the date and results of the most recent sampling and the report shall include a brief statement indicating that the data presented in the report are from the most recent testing done in accordance with the regulations. Data older than 5 years need not be included.
(ii) Results of monitoring in compliance with 40 C.F.R. §§141.142 and 141.143 need only be included for 5 years from the date of last sample or until any of the detected contaminants becomes regulated and subject to routine monitoring requirements, whichever comes first.
(d) For detected regulated contaminants in table 1 of R 325.10405, the table or tables shall contain all of the following information:
(i) The MCL for that contaminant expressed as a number equal to or greater than 1.0, as provided in table 1 of R 325.10405.
(ii) The MCLG for that contaminant expressed in the same units as the MCL.
(iii) If there is not an MCL for a detected contaminant, then the table shall indicate that there is a treatment technique, or specify the action level, applicable to that contaminant. The report shall also include the definitions for treatment technique or action level, or both, as appropriate, and specified in subrule (6) of this rule.
(iv) For contaminants subject to an MCL, except turbidity, total coliform, fecal coliform, and E. coli, the table shall indicate the highest contaminant level used to determine compliance with a drinking water standard and the range of detected levels as follows:
(A) If compliance with the MCL is determined annually or less frequently, then the table shall indicate the highest detected level at any sampling point and the range of detected levels expressed in the same units as the MCL.
(B) If compliance with the MCL is determined by calculating a running annual average of all samples taken at a sampling point, then the table shall indicate the highest average of any of the sampling points and the range of all sampling points expressed in the same units as the MCL. For the MCLs for TTHM and HAA5 in R 325.10610(2) that are based on a locational running annual average, supplies shall include the highest locational running annual average for TTHM and HAA5 and the range of individual sample results for all monitoring locations expressed in the same units as

the MCL. If more than 1 location exceeds the TTHM or HAA5 MCL, the supply shall include the locational running annual averages for all locations that exceed the MCL.
(C) If compliance with the MCL is determined on a supply-wide basis by calculating a running annual average of all samples at all sampling points, then the table shall indicate the average and range of detection expressed in the same units as the MCL. Note to subdivision (d) (iv) of this subrule: When rounding of results to determine compliance with the MCL is allowed, rounding may be done before multiplying the results by the factor listed in table 1 of R 325.10405.
(v) For turbidity reported under R 325.10720 and R 325.10611b, the table shall indicate the highest single measurement and the lowest monthly percentage of samples meeting the turbidity limits for the filtration technology being used. The report shall include an explanation of the reasons for measuring turbidity.
(vi) For lead and copper, the table shall indicate the ninetieth percentile value of the most recent round of sampling and the number of sampling sites exceeding the action level.
(vii) For total coliform analytical results until March 31, 2016, the table shall indicate either of the following:
(A) The highest monthly number of positive samples for supplies collecting fewer than 40 samples per month.
(B) The highest monthly percentage of positive samples for supplies collecting not less than 40 samples per month.
(viii) For fecal coliform and E. coli until March 31, 2016, the table shall indicate the total number of positive samples.
(ix) The table shall indicate the likely source or sources of detected contaminants to the best of the supply's knowledge. Specific information regarding contaminants may be available in sanitary surveys and source water assessments and the supply shall use the information when it is available. If the supply lacks specific information on the likely source, then the report shall include 1 or more of the typical sources for that contaminant listed in table 1 of R 325.10405 that are most applicable to the community water supply.
(x) For E. coli analytical results under the total coliform provisions of R 325.10704a to R 325.10704k, the table shall indicate the total number of positive samples.
(e) If a community water supply distributes water to its customers from multiple hydraulically independent distribution systems that are fed by different raw water sources, then the table may contain a separate column for each service area and the report may identify each separate distribution system. Alternatively, supplies may produce separate reports tailored to include data for each service area.
(f) The table or tables shall clearly identify any data indicating violations of MCLs, MRDLs, or treatment techniques and the report shall contain a clear and readily understandable explanation of the violation including the length of the violation, the potential adverse health effects, and actions taken by the supply to address the violation. The supply shall use the relevant language in table 1 of R 325.10405 to describe the potential health effects.
(g) For detected unregulated contaminants for which monitoring is required, except Cryptosporidium, the table or tables shall contain the average and range at which the contaminant was detected. The report may include a brief explanation of the reasons for monitoring for unregulated contaminants.
(9) All of the following information shall be included on Cryptosporidium, radon, and other contaminants:
(a) If the supply has performed any monitoring for Cryptosporidium, including monitoring performed to satisfy the requirements of 40 C.F.R. §141.143, which indicates that Cryptosporidium may be present in the source water or the finished water, the report shall include both of the following:
(i) A summary of the results of the monitoring.
(ii) An explanation of the significance of the results.
(b) If the supply has performed any monitoring for radon which indicates that radon may be present in the finished water, then the report shall include both of the following:
(i) The results of the monitoring.
(ii) An explanation of the significance of the results.
(c) If the supply has performed additional monitoring which indicates the presence of other contaminants in the finished water, then the supply is encouraged to report any results that may indicate a health concern. To determine if results may indicate a health concern, the supply may determine if EPA has proposed a national primary drinking water regulation or issued a health advisory for that contaminant by calling the safe drinking water hotline (800-426-4791). EPA considers detections above a proposed MCL or health advisory level to indicate possible health concerns. For such contaminants, the report may include both of the following:
(i) The results of the monitoring.
(ii) An explanation of the significance of the results noting the existence of a health advisory or a proposed regulation.
(d) Levels of sodium monitored under R 325.10717b during the year covered by the report.
(10) For compliance with state drinking water standards, in addition to the requirements of subrule (7) (f) of this rule, the report shall note any violation that occurred during the year covered by the report for all of the following requirements and include a clear and readily understandable explanation of the violation, any potential adverse health effects, and the steps the supply has taken to correct the violation:

(a) Monitoring and reporting of compliance data.
(b) For filtration and disinfection prescribed by R 325.10611, R 325.10611a, and R 325.10611b, supplies which have failed to install adequate filtration or disinfection equipment or processes, or have had a failure of such equipment or processes which constitutes a violation shall include the following language as part of the explanation of potential adverse health effects in the report: "Inadequately treated water may contain disease causing organisms. These organisms include bacteria, viruses, and parasites which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches."
(c) For lead and copper control requirements prescribed by R 325.10604f, supplies that fail to take 1 or more actions prescribed by R 325.10604f(1) (d), R 325.10604f(2), R 325.10604f(3), R 325.10604f(4), or R 325.10604f(5) shall include the applicable language of table 1 of R 325.10405 for lead, copper, or both, in the report.
(d) For treatment techniques for acrylamide and epichlorohydrin prescribed by R 325.10604e, supplies that violate the requirements of R 325.10604e shall include the relevant language from table 1 of R 325.10405 in the report.
(e) Recordkeeping of compliance data.
(f) Special monitoring requirements prescribed by R 325.10717b.
(g) Violation of the terms of a variance, an exemption, or an administrative or judicial order.
(11) For variances and exemptions, if a supply is operating under the terms of a variance or an exemption issued under section 20 of the act, then the report shall contain all of the following information:
(a) An explanation of the reasons for the variance or exemption.
(b) The date on which the variance or exemption was issued.
(c) A brief status report on the steps the supply is taking to install treatment, find alternative sources of water, or otherwise comply with the terms and schedules of the variance or exemption.
(d) A notice of any opportunity for public input in the review, or renewal, of the variance or exemption.
(12) The report shall include all of the following additional information:
(a) A brief explanation regarding contaminants which may reasonably be expected to be found in drinking water including bottled water. The explanation may include the language of paragraphs (i) to (iii) of this subdivision or supplies may use their own comparable language. The report also shall include the language of paragraph (iv) of this subdivision.
(i) The sources of drinking water, both tap water and bottled water, including rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.
(ii) Contaminants that may be present in source water including all of the following:
(A) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
(B) Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
(C) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
(D) Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
(E) Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.
(iii) To ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water supplies. FDA regulations establish limits for contaminants in bottled water that shall provide the same protection for public health.
(iv) Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the United States environmental protection agency's safe drinking water hotline (800-426-4791).
(b) The report shall include the telephone number of the owner, operator, or designee of the community water supply as a source of additional information concerning the report.
(c) In communities that have more than 10% non-English speaking residents, the report shall contain information in the appropriate language or languages regarding the importance of the report or the report shall contain a telephone number or address where residents may contact the supply to obtain a translated copy of the report or assistance in the appropriate language.

(d) The report shall include information about opportunities for public participation in decisions by the supplies that may affect the quality of the water; for example, time and place of regularly scheduled board meetings.
(e) The supply may include such additional information as it determines necessary for public education consistent with, and not detracting from, the purpose of the report.
(f) Groundwater supplies required to comply with groundwater provisions of R 325.10612 shall comply with all of the following:
(i) A groundwater supply that receives notice from the department of a significant deficiency or notice from a laboratory of a fecal indicator-positive groundwater source sample that is not invalidated by the department under R 325.10739(3) shall inform its customers of any significant deficiency that is uncorrected at the time of the next report or of any fecal indicator-positive groundwater source sample in the next report. The groundwater supply shall continue to inform the public annually until the department determines that particular significant deficiency is corrected or the fecal contamination in the groundwater source is addressed under R 325.10612a(1). Each report shall include all of the following elements:
(A) The nature of the particular significant deficiency or the source of the fecal contamination, if the source is known, and the date the significant deficiency was identified by the department or the dates of the fecal indicator-positive groundwater source samples.
(B) If the fecal contamination in the groundwater source has been addressed under R 325.10612a(1) and the date of the action.
(C) For each significant deficiency or fecal contamination in the groundwater source that has not been addressed under R 325.10612a(1), the department-approved plan and schedule for correction, including interim measures, progress to date, and any interim measures completed.
(D) If the groundwater supply receives notice of a fecal indicator-positive groundwater source sample that is not invalidated by the department under R 325.10739(3), the potential health effects using the health effects language of Table 1 of R 325.10405.
(ii) If directed by the department, a groundwater supply with significant deficiencies that have been corrected before the next report is issued shall inform its customers of the significant deficiency, how the deficiency was corrected, and the date of correction under paragraph (i) of this subdivision.
(g) Supplies required to comply with total coliform provisions of R 325.10704a to R 325.10704k shall comply with all of the following:
(i) A supply required to comply with the level 1 assessment requirement or a level 2 assessment requirement that is not due to an E. coli MCL violation shall comply with all of the following:
(A) Include in the report the text, "Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessment(s) to identify problems and to correct the problems that were found during these assessments."
(B) Include in the report as appropriate, filling in the blanks accordingly the text, "During the past year we were required to conduct [INSERT NUMBER OF LEVEL 1 ASSESSMENTS] level 1 assessment(s). [INSERT NUMBER OF LEVEL 1 ASSESSMENTS] level 1 assessment(s) were completed. In addition, we were required to take [INSERT NUMBER OF CORRECTIVE ACTIONS] corrective actions and we completed [INSERT NUMBER OF CORRECTIVE ACTIONS] of these actions."
(C) Include in the report as appropriate, filling in the blanks accordingly the text, "During the past year [INSERT NUMBER OF LEVEL 2 ASSESSMENTS] level 2 assessments were required to be completed for our water supply. [INSERT NUMBER OF LEVEL 2 ASSESSMENTS] Level 2 assessments were completed. In addition, we were required to take [INSERT NUMBER OF CORRECTIVE ACTIONS] corrective actions and we completed [INSERT NUMBER OF CORRECTIVE ACTIONS] of these actions."
(D) A supply that has failed to complete all the required assessments or correct all identified sanitary defects, is in violation of the treatment technique requirement and shall also include 1 or both of the following statements, as appropriate:
(1) During the past year we failed to conduct all of the required assessment(s).
(2) During the past year we failed to correct all identified defects that were found during the assessment.
(ii) A supply required to undergo a level 2 assessment due to an E. coli MCL violation shall comply with all of the following:
(A) Include in the report the text, "E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a greater health risk for infants, young children, the elderly, and

people with severely compromised immune systems. We found E. coli bacteria, indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessment(s) to identify problems and to correct the problems that were found during these assessments."
(B) Include in the report as appropriate, filling in the blanks accordingly the text, "We were required to complete a level 2 assessment because we found E. coli in our water system. In addition, we were required to take [INSERT NUMBER OF CORRECTIVE ACTIONS] corrective actions and we completed [INSERT NUMBER OF CORRECTIVE ACTIONS] of these actions."
(C) A supply that has failed to complete the required assessment or correct all identified sanitary defects, is in violation of the treatment technique requirement and shall also include one or both of the following statements, as appropriate:
(1) We failed to conduct the required assessment.
(2) We failed to correct all sanitary defects that were identified during the assessment that we conducted.
(iii) If a supply detects E. coli and has violated the E. coli MCL, in addition to completing the table as required in subrule (8)(d) of this rule, the supply shall include 1 or more of the following statements to describe the noncompliance, as applicable:
(A) We had an E. coli-positive repeat sample following a total coliform-positive routine sample.
(B) We had a total coliform-positive repeat sample following an E. coli-positive routine sample.
(C) We failed to take all required repeat samples following an E. coli-positive routine sample.
(D) We failed to test for E. coli when a repeat sample tests positive for total coliform.
(iv) If a supply detects E. coli and has not violated the E. coli MCL, in addition to completing the table as required in subrule (8)(d) of this rule, the supply may include a statement that explains that although they have detected E. coli, they are not in violation of the E. coli MCL.
History: 2001 AACS; 2003 AACS; 2009 AACS; 2015 MR 20, Eff. Oct. 16, 2015.

R 325.10414
Source: 2009 AACS.

R 325.10415
Source: 2009 AACS.

R 325.10416 Rescinded.
History: 2001 AACS; 2003 AACS; 2015 MR 20, Eff. Oct. 16, 2015.

R 325.10417 Rescinded.
History: 2001 AACS; 2003 AACS; 2015 MR 20, Eff. Oct. 16, 2015.

R 325.10418 Rescinded.
History: 2001 AACS; 2003 AACS; 2015 MR 20, Eff. Oct. 16, 2015.

R 325.10419 Rescinded.
History: 2001 AACS; 2003 AACS; 2015 MR 20, Eff. Oct. 16, 2015.

R 325.10420 Annual consumer confidence reporting; contaminants for vulnerable subpopulation.
Rule 420. Pursuant to section 14 of the act, if any contaminants listed in table 1 of this rule are detected above a level of concern as indicated in table 1 of this rule, then the consumer confidence report shall include a description of the potential adverse health effects and the vulnerable subpopulation that may be susceptible to the level of contaminant detected. The community water supply may use the relevant language provided in table 1 of R 325.10405.
Table 1 Contaminants for vulnerable subpopulation reporting

Contaminant	Susceptible vulnerable subpopulation	Level of concern
Fecal coliform/ E. coli	Infants, young children, the elderly, and people with severely compromised immune systems.	Confirmed presence (any confirmed detect)
Copper	People with Wilson's disease.	1.3 mg/l (ppm)
Fluoride	Children.	4.0 mg/l (ppm)
Lead	Infants and children.	15.0 µg/l (ppb)

Nitrate	Infants below the age of 6 months.	10.0 mg/l (ppm)
Nitrite	Infants below the age of 6 months.	1.0 mg/l (ppm)

History: 2001 AACS; 2003 AACS; 2015 MR 20, Eff. Oct. 16, 2015.

PART 5. TYPES OF PUBLIC WATER SUPPLIES

R 325.10501
Source: 1979 AC.

R 325.10502
Source: 2009 AACS.

R 325.10503
Source: 2009 AACS.

R 325.10504
Source: 2009 AACS.

R 325.10505
Source: 2009 AACS.

R 325.10506
Source: 2009 AACS.

PART 6. STATE DRINKING WATER STANDARDS AND ANALYTICAL TECHNIQUES

R 325.10601
Source: 1998-2000 AACS.

R 325.10601a
Source: 2009 AACS.

R 325.10602 Maximum contaminant levels (MCLs) for microbiological contaminants.
Rule 602. (1) Beginning April 1, 2016, a community or noncommunity water supply is in compliance with the MCL for E. coli for samples taken under R 325.10704a to R 325.10704k unless 1 or more of the following conditions occur:
(a) The supply has an E. coli-positive repeat sample following a total coliform-positive routine sample.
(b) The supply has a total coliform-positive repeat sample following an E. coli-positive routine sample.
(c) The supply fails to take all required repeat samples following an E. coli-positive routine sample.
(d) The supply fails to test for E. coli when a repeat sample tests positive for total coliform.
Note to this subrule: For purposes of the public notification requirements in R 325.10401a to R 325.10409, violation of the MCL may pose an acute risk to health.
(2) Beginning April 1, 2016, a supply shall determine compliance with the MCL for E. coli in subrule (1) of this rule for each month in which it is required to monitor for total coliforms.
(3) The best technology, treatment techniques, or other means available for achieving compliance with the maximum contaminant level for total coliforms in subrule (5) of this rule until March 31, 2016 and for achieving compliance with the maximum contaminant level for E. coli in subrule (1) of this rule beginning April 1, 2016 are all of the following:
(a) Protection of wells from fecal contamination by appropriate placement and construction.
(b) Maintenance of a disinfectant residual throughout the distribution system.
(c) Proper maintenance of the distribution system including appropriate pipe replacement and repair procedures, main flushing programs, proper operation and maintenance of storage tanks and reservoirs, cross connection control, and continual maintenance of positive water pressure in all parts of the distribution system.
(d) Filtration and disinfection of surface water, as described in the surface water treatment provisions of R 325.10611 to R 325.10611n, R 325.10720 to R 325.720e, and R 325.10722, or disinfection of groundwater, as described in the groundwater provisions of R 325.10612 to R 325.10612b and R 325.10739 to R 325.10739b, using strong oxidants such as chlorine, chlorine dioxide, or ozone.

(e) For supplies using ground water, compliance with the requirements of an EPA-approved state Wellhead Protection Program developed and implemented under section 1428 of the federal act.
(4) The technology, treatment techniques, or other means available identified in subrule (3) of this rule are considered affordable technology, treatment techniques, or other means available to supplies serving 10,000 or fewer people for achieving compliance with the maximum contaminant level for total coliforms in subrule (5) of this rule until March 31, 2016 and for achieving compliance with the maximum contaminant level for E. coli in subrule (1) of this rule beginning April 1, 2016.
(5) Until March 31, 2016 all of the following apply:
(a) The total coliform MCL is based on the presence or absence of total coliforms in a sample, rather than coliform density. Either of the following applies to the total coliform MCL:
(i) For a supply that collects at least 40 samples per month, if no more than 5.0 percent of the samples collected during a month are total coliform-positive, the supply is in compliance with the MCL for total coliforms.
(ii) For a supply that collects fewer than 40 samples per month, if no more than one sample collected during a month is total coliform-positive, the supply is in compliance with the MCL for total coliforms.
(b) A fecal coliform-positive repeat sample or E. coli-positive repeat sample, or a total coliform-positive repeat sample following a fecal coliform-positive or E. coli-positive routine sample, constitutes a violation of the MCL for total coliforms. For purposes of the public notification requirements in R 325.10401a to R 325.10409, this is a violation that may pose an acute risk to health.
(c) A supply shall determine compliance with the MCL for total coliforms in this subrule for each month in which it is required to monitor for total coliforms.
History: 1979 AC; 1991 AACS; 1993 AACS; 2009 AACS; 2015 MR 20, Eff. Oct. 16, 2015.

R 325.10603
Source: 2005 AACS.

R 325.10604
Source: 2005 AACS.

R 325.10604a
Source: 2003 AACS.

R 325.10604b
Source: 2005 AACS.

R 325.10604c
Source: 2009 AACS.

R 325.10604d
Source: 2005 AACS.

R 325.10604e
Source: 1993 AACS.

R 325.10604f
Source: 2009 AACS.

R 325.10605 Analytical methods and sample collection procedures; incorporation by reference.
Rule 605. The analytical methods and sample collection procedures used in the determination of compliance with the state drinking water standards for microbiological contaminants, fecal indicators, inorganic chemical contaminants, organic chemical contaminants, including maximum TTHM potential, turbidity, disinfectant residuals, disinfection byproducts, disinfection byproduct precursors, temperature, pH, conductivity, alkalinity, bromide, specific ultraviolet absorbance, total organic carbon, and radioactivity which are contained in 40 CFR parts 141 and 143, 2014, and which have been promulgated by the United States EPA under authority of the safe drinking water act of 1974 (public law 93-523), the safe drinking water act amendments of 1986 (public law 99-339), and the safe drinking water act amendments of 1996 (public law 104-182), 42 USC 300f et seq. are adopted by reference in these rules. The adopted material is contained in Title 40 CFR parts 136 to 149 and is available from the superintendent of documents at the address in R 325.10116(b) for a cost of $67.00 at the time of adoption of these rules. The adopted material is available for

inspection from the offices of the department at the address in R 325.10116(a) or available on the Internet at http://www.ecfr.gov/.
History: 1979 AC; 1991 AACS; 1993 AACS; 1998 AACS; 2000 AACS; 2003 AACS; 2005 AACS; 2009 AACS; 2015 MR 20, Eff. Oct. 16, 2015.

R 325.10605a
Source: 1998-2000 AACS.

R 325.10605b
Source: 1998-2000 AACS.

R 325.10605c
Source: 1998-2000 AACS.

R 325.10605d
Source: 1998-2000 AACS.

R 325.10605e
Source: 1998-2000 AACS.

R 325.10606
Source: 1998-2000 AACS.

R 325.10607
Source: 1998-2000 AACS.

R 325.10608
Source: 1998-2000 AACS.

R 325.10609
Source: 1998-2000 AACS.

R 325.10605 Analytical methods and sample collection procedures; incorporation by reference.
Rule 605. The analytical methods and sample collection procedures used in the determination of compliance with the state drinking water standards for microbiological contaminants, fecal indicators, inorganic chemical contaminants, organic chemical contaminants, including maximum TTHM potential, turbidity, disinfectant residuals, disinfection byproducts, disinfection byproduct precursors, temperature, pH, conductivity, alkalinity, bromide, specific ultraviolet absorbance, total organic carbon, and radioactivity which are contained in 40 CFR parts 141 and 143, 2014, and which have been promulgated by the United States EPA under authority of the safe drinking water act of 1974 (public law 93-523), the safe drinking water act amendments of 1986 (public law 99-339), and the safe drinking water act amendments of 1996 (public law 104-182), 42 USC 300f et seq. are adopted by reference in these rules. The adopted material is contained in Title 40 CFR parts 136 to 149 and is available from the superintendent of documents at the address in R 325.10116(b) for a cost of $67.00 at the time of adoption of these rules. The adopted material is available for inspection from the offices of the department at the address in R 325.10116(a) or available on the Internet at http://www.ecfr.gov/.
History: 1979 AC; 1991 AACS; 1993 AACS; 1998 AACS; 2000 AACS; 2003 AACS; 2005 AACS; 2009 AACS; 2015 MR 20, Eff. Oct. 16, 2015.

R 325.10610a
Source: 2009 AACS.

R 325.10610b Disinfectant residuals, disinfection byproducts, and disinfection byproduct precursors; compliance requirements.
Rule 610b. (1) This rule, R 325.10610c, R 325.10719e, and R 325.10719f apply to community water supplies and nontransient noncommunity water supplies that add a chemical disinfectant to the water in any part of the drinking water treatment process and to transient noncommunity water supplies adding chlorine dioxide. These public water supplies are

considered "water supplies" or "supplies" in this rule. Transient noncommunity water supplies are only required to comply with the chlorine dioxide requirements. Compliance with this rule is based on all of the following:
(a) All samples taken under this rule, R 325.10610c, R 325.10719e, and R 325.10719f and analyzed under R 325.10605, shall be included in determining compliance with the maximum contaminant levels and maximum residual disinfectant levels of R 325.10610 and R 325.10610a.
(b) If, during the first year of monitoring under R 325.10719e, any individual quarter's average will cause the running annual average of that water supply to exceed the MCL for total trihalomethanes, haloacetic acids (five), or bromate; or the MRDL for chlorine or chloramine, the supply is out of compliance at the end of that quarter.
(c) A supply is in violation of the state drinking water standard if compliance is based on 4 consecutive quarters of monitoring and the average of samples, or quarterly averages, or running annual averages, whichever is applicable, exceeds the state drinking water standard, unless otherwise noted in this rule.
(d) Where compliance is based on a running annual average of monthly or quarterly samples or averages and the supply fails to complete 4 consecutive quarters or 12 consecutive months of monitoring, whichever is applicable, compliance with the MCL for the last 4 quarter compliance period is based on an average of the available data unless otherwise stated in this rule.
(2) Compliance with disinfection byproducts requirements is based on all of the following:
(a) Compliance with TTHM and HAA5 requirements are based on R 325.10610d(4) and (5).
(b) Compliance with the bromate requirements is based on a running annual average, computed quarterly, of monthly samples, or, for months in which the supply takes more than 1 sample, the average of all samples taken during the month, collected under R 325.10719e(2)(c).
(c) Compliance with the chlorite requirements is based on an average of each 3 sample set taken in the distribution system under R 325.10719e(2)(b)(i)(B) and R 325.10719e(2)(b)(ii). If the average of any 3 sample set exceeds the MCL, the supply is in violation of the MCL.
(3) Compliance with disinfectant residuals requirements is based on both of the following:
(a) Compliance with the chlorine and chloramines requirements is based on a running annual average, computed quarterly, of monthly averages of all samples collected by the supply under R 325.10719e(3)(a). In cases where supplies switch between the use of chlorine and chloramines for residual disinfection during the year, compliance is determined by including together all monitoring results of both chlorine and chloramines in calculating compliance. Supplies shall clearly indicate which residual disinfectant was analyzed for each sample when submitting reports to the department under R 325.11502a.
(b) Compliance with the chlorine dioxide requirements is based on consecutive daily samples collected by the supply under R 325.10719e(3)(b).
(i) An acute violation occurs when a daily sample taken at the entrance to the distribution system exceeds the MRDL, and on the following day 1, or more, of the 3 samples taken in the distribution system exceed the MRDL. The supply shall take immediate corrective action to lower the level of chlorine dioxide below the MRDL. Failure to monitor in the distribution system the day following an exceedance of the chlorine dioxide MRDL at the entrance to the distribution system is also an MRDL violation and the supply shall notify the public of the violation under R 325.10402, Tier 1 public notice, and report to the department under R 325.10719f.
(ii) A nonacute violation occurs when 2 consecutive daily samples taken at the entrance to the distribution system exceed the MRDL and all distribution system samples taken are below the MRDL. The supply shall take corrective action to lower the level of chlorine dioxide below the MRDL at the point of sampling. Failure to monitor at the entrance to the distribution system the day following an exceedance of the chlorine dioxide MRDL at the entrance to the distribution system is also an MRDL violation and the supply shall notify the public of the violation under R 325.10403, Tier 2 public notice, and report to the department under R 325.10719f.
(c) Notwithstanding the MRDLs in R 325.10610b, supplies may increase residual disinfectant levels in the distribution system of chlorine or chloramines, but shall not increase the levels of chlorine dioxide, to a level and for a time necessary to protect public health to address specific microbiological contamination problems caused by circumstances such as distribution line breaks, storm run-off events, source water contamination events, or cross-connection events.
(4) Compliance with the treatment technique for disinfection byproduct precursors (DBPP) is determined as specified by R 325.10610c(3). Supplies may begin monitoring to determine whether step 1 TOC removals can be met 12 months before the compliance date for the supply. This monitoring is not required and failure to monitor during this period is not a violation. However, a supply that does not monitor during this period, and then determines, in the first 12 months after the compliance date, that the supply is not able to meet the step 1 requirements in R 325.10610c(2)(b) and shall therefore apply for alternate minimum TOC removal (step 2) requirements, is not eligible for retroactive approval of alternate minimum TOC removal (step 2) requirements as allowed under R 325.10610c(2)(c) and is in violation. Supplies may apply for alternate minimum TOC removal (step 2) requirements any time after the compliance date. For supplies

required to meet step 1 TOC removals, if the value calculated under R 325.10610c(3)(a)(iv) is less than 1.00 calculated as a running annual average of monthly samples, computed quarterly, the supply is in violation of the treatment technique requirements and shall notify the public.
History: 2003 AACS; 2009 AACS; 2015 MR 20, Eff. Oct. 16, 2015.

R 325.10610c
Source: 2009 AACS.

R 325.10610d Disinfection byproducts; requirements.
Rule 610d. (1) This rule and R 325.10719h to R 325.10719n establish monitoring and other requirements for achieving compliance with maximum contaminant levels based on locational running annual averages (LRAA) for total trihalomethanes (TTHM) and haloacetic acids (five) (HAA5), and for achieving compliance with maximum residual disinfectant residuals for chlorine and chloramine for certain consecutive supplies.
(2) Subject to these requirements are community and nontransient noncommunity water supplies that use a primary or residual disinfectant other than ultraviolet light or delivers water that has been treated with a primary or residual disinfectant other than ultraviolet light. These public water supplies are considered "water supplies" or "supplies" in this rule and R 325.10719h to R 325.10719n.
(3) The supply shall comply with all of the following provisions:
(a) The supply shall comply with the requirements in this rule and R 325.10719h to R325.10719n when the supply becomes subject to this rule as indicated in subrule (2) of this rule.
(b) The monitoring frequency is specified in R 325.10719h(1)(a) and both of the following:
(i) If the supply is required to conduct quarterly monitoring, the supply shall begin monitoring in the first full calendar quarter that the supply becomes subject to this rule, as indicated in subrule (2) of this rule.
(ii) If the supply is required to conduct monitoring at a frequency that is less than quarterly, the supply shall begin monitoring in the calendar month identified in the monitoring plan developed under R 325.10719i not later than 12 months after the supply becomes subject to this rule, as indicated in subrule (2) of this rule.
(c) If the supply is required to conduct quarterly monitoring, the supply shall make compliance calculations at the end of the fourth calendar quarter that follows the compliance date and at the end of each subsequent quarter (or earlier if the LRAA calculated based on fewer than 4 quarters of data would cause the MCL to be exceeded regardless of the monitoring results of subsequent quarters). If the supply is required to conduct monitoring at a frequency that is less than quarterly, the supply shall make compliance calculations beginning with the first compliance sample taken after the compliance date.
(d) For the purpose of the schedule in this subrule, the department may determine that the combined distribution system does not include certain consecutive supplies based on factors such as receiving water from a wholesale supply only on an emergency basis or receiving only a small percentage and small volume of water from a wholesale supply. The department may also determine that the combined distribution system does not include certain wholesale supplies based on factors such as delivering water to a consecutive supply only on an emergency basis or delivering only a small percentage and small volume of water to a consecutive supply.
(4) Compliance with the MCLs shall be based on both of the following:
(a) This subdivision applies to supplies required to monitor quarterly. To comply with MCLs in R 325.10610(2), the supply shall calculate LRAAs for TTHM and HAA5 using monitoring results collected under this rule and R 325.10719h to R 325.10719n and determine that each LRAA does not exceed the MCL. If the supply fails to complete 4 consecutive quarters of monitoring, the supply shall calculate compliance with the MCL based on the average of the available data from the most recent 4 quarters. If the supply takes more than 1 sample per quarter at a monitoring location, the supply shall average all samples taken in the quarter at that location to determine a quarterly average to be used in the LRAA calculation.
(b) This subdivision applies to supplies required to monitor annually or less frequently. To determine compliance with MCLs in R 325.10610(2), the supply shall determine that each sample taken is less than the MCL. If a sample exceeds the MCL, the supply shall comply with the requirements of R 325.10719k. If no sample exceeds the MCL, the sample result for each monitoring location is considered the LRAA for that monitoring location.
(5) The supply is in violation of the MCL when the LRAA exceeds the MCLs in R 325.10610(2), calculated based on 4 consecutive quarters of monitoring, or the LRAA calculated based on fewer than 4 quarters of data if the MCL would be exceeded regardless of the monitoring results of subsequent quarters. The supply is in violation of the monitoring requirements for each quarter that a monitoring result would be used in calculating an LRAA if the supply fails to monitor.

(6) A consecutive supply that does not add a disinfectant but delivers water that has been treated with a primary or residual disinfectant other than ultraviolet light, shall comply with monitoring requirements for chlorine and chloramines in R 325.10719e(3)(a) and the compliance requirements in R 325.10610b(1)(c) and (3)(a) and shall report monitoring results under R 325.10719f(3)(a).
History; 2009 AACS; 2015 MR 20, Eff. Oct. 16, 2015.

R 325.10611
Source: 2005 AACS.

R 325.10611a
Source: 2009 AACS.

R 325.10611b
Source: 2009 AACS.

R 325.10611c
Source: 2005 AACS.

R 325.10611d
Source: 2009 AACS.

R 325.10611e
Source: 2009 AACS.

R 325.10611f
Source: 2009 AACS.

R 325.10611g
Source: 2009 AACS.

R 325.10611h
Source: 2009 AACS.

R 325.10611i
Source: 2009 AACS.

R 325.10611j
Source: 2009 AACS.

R 325.10611k
Source: 2009 AACS.

R 325.10611l
Source: 2009 AACS.

R 325.10611m
Source: 2009 AACS.

R 325.10611n
Source: 2009 AACS.

R 325.10612
Source: 2009 AACS.

R 325.10612a
Source: 2009 AACS.

R 325.10612b

Source: 2009 AACS.

PART 7. SURVEILLANCE, INSPECTION, AND MONITORING

R 325.10701
Source: 1979 AC.

R 325.10702 Evaluation of adequacy and condition of public water supplies; sanitary surveys.
Rule 702. (1) Under section 3 of the act, the department shall make sanitary surveys, onsite inspections, surveillance observations, or special purpose investigations for the purpose of evaluating the adequacy and condition of public water supplies at a frequency which may be determined by the department.
(2) Based on the results of each sanitary survey, the department shall determine whether the existing monitoring frequency is adequate and what additional measures, if any, the supply shall take to improve drinking water quality.
(3) Subpart H supplies shall undergo sanitary surveys at least once every 3 years for community water supplies and at least once every 5 years for noncommunity water supplies. The department may reduce the frequency to at least once every 5 years for community water supplies that have demonstrated outstanding performance.
(4) Groundwater supplies subject to R 325.10612 shall undergo sanitary surveys at either of the following frequencies:
(a) Community water supplies shall undergo a sanitary survey at least once every 3 years, except the department may reduce the frequency to once every 5 years if either of the following conditions exists:
(i) The supply provides at least 4-log treatment of viruses (using inactivation, removal, or a department approved combination of 4-log inactivation and removal) before or at the first customer for all its groundwater sources.
(ii) The supply has an outstanding performance record.
(b) Noncommunity water supplies shall undergo a sanitary survey at least once every 5 years.
History: 1979 AC; 1991 AACS; 2003 AACS; 2009 AACS; 2015 MR 20, Eff. Oct. 16, 2015.

R 325.10703
Source: 1979 AC.

R 325.10704 Coliform sampling.
Rule 704. (1) Until March 31, 2016, community and noncommunity water systems shall collect samples and cause analyses to be made for coliform bacteria to determine compliance with the state drinking water standards. Beginning April 1, 2016, the total coliform provisions of R 325.10704a to R 325.10704k are applicable, with supplies required to begin regular monitoring at the same frequency as the supply-specific frequency required on March 31, 2016.
(2) Until March 31, 2016, the department may require samples to be collected and analyzed for coliform bacteria for type III public water systems at a frequency as may be considered necessary by the department. Beginning April 1, 2016, supplies shall comply with R 325.10704a(2).
(3) If any routine or repeat sample is total coliform-positive, the supplier shall analyze that total coliform-positive culture medium to determine if fecal coliforms are present. Analysis for E. coli may be performed instead of fecal coliforms.
(4) All of the following provisions apply until March 31, 2016:
(a) R 325.10705 collection and analysis of samples for coliform bacteria; community water systems.
(b) R 325.10706 collection and analysis of samples for coliform bacteria; noncommunity water system.
(c) R 325.10709 special purpose and invalidated samples.
(5) All of the following provisions apply until all required repeat monitoring under R 325.10707 and fecal coliform or E. coli testing under subrule (3) of this rule that was initiated by a total coliform-positive sample taken before April 1, 2016 is completed, as well as analytical method, reporting, recordkeeping, public notification, and consumer confidence report requirements associated with that monitoring and testing:
(a) R 325.10707 repeat monitoring for total coliform.
(b) R 325.10707a invalidation of total coliform samples.
(c) Subrule (3) of this rule, analyze culture for fecal coliforms.
(d) R 325.10707b general notification requirements for total coliform and fecal coliform/escherichia coli (E. coli).
History: 1979 AC; 2003 AACS; 2015 MR 20, Eff. Oct. 16, 2015.

R 325.10704a Total coliform; general.
Rule 704a. (1) All of the following rules, also known in these rules as the total coliform rules, include both maximum contaminant level and treatment technique requirements:
(a) R 325.10704a total coliform; general.

(b) R 325.10704b total coliform; analytical methods.
(c) R 325.10704c total coliform; general monitoring.
(d) R 325.10704d total coliform; routine monitoring; noncommunity; serving 1,000 or fewer people; groundwater.
(e) R 325.10704e total coliform; routine monitoring; community; serving 1,000 or fewer people; groundwater.
(f) R 325.10704f total coliform; routine monitoring; subpart H; serving 1,000 or fewer people.
(g) R 325.10704g total coliform; routine monitoring; community and noncommunity; serving more than 1,000 people.
(h) R 325.10704h total coliform; repeat monitoring; E. coli.
(i) R 325.10704i total coliform; treatment technique triggers; assessments.
(j) R 325.10704j total coliform; violations.
(k) R 325.10704k total coliform; reporting and recordkeeping.
(2) The total coliform rules apply to all community and noncommunity water supplies. The department may require samples to be collected and analyzed for coliform bacteria for type III public water systems at a frequency as may be considered necessary by the department.
(3) Supplies falling under direct oversight of the EPA, where the EPA acts as the department, shall comply with decisions made by the EPA for implementation of these total coliform rules. The EPA has authority to establish the procedures and criteria as are necessary to implement these total coliform rules.
(4) Failure to comply with these total coliform rules is a violation of these rules.
(5) Supplies shall comply with these total coliform rules beginning April 1, 2016, unless otherwise required in these total coliform rules.
History: 2015 MR 20, Eff. Oct. 16, 2015.

R 325.10704b Total coliform; analytical methods.
Rule 704b. (1) All of the following provisions apply to analytical methodology for compliance with the total coliform rules in R 325.10704a.
(a) The standard sample volume required for analysis, regardless of analytical method used, is 100 milliliters.
(b) Supplies need only determine the presence or absence of total coliforms and E. coli; a determination of density is not required.
(c) The time from sample collection to initiation of test medium incubation shall not exceed 30 hours. Supplies are encouraged but not required to hold samples below 10 degrees Celsius (50 degrees Fahrenheit) during transit.
(d) If water having residual chlorine (measured as free, combined, or total chlorine) is to be analyzed, sufficient sodium thiosulfate ($Na_2S_2O_3$) shall be added to the sample bottle before sterilization to neutralize the residual chlorine in the water sample. Dechlorination procedures are addressed in Section 9060A.2 of Standard Methods for the Examination of Water and Wastewater (20th and 21st editions), which is adopted by reference in R 325.10605.
(e) Supplies shall conduct total coliform and E. coli analyses in accordance with the appropriate analytical methods adopted by reference in R 325.10605.
(2) Supplies shall have all compliance samples required under the total coliform rules R 325.10704a to R 325.10704k analyzed by a laboratory certified by the EPA or the department to analyze drinking water samples, as required under R 325.10601a and R 325.10731. The laboratory used by the supply shall be certified for each method (and associated contaminant(s)) used for compliance monitoring analyses under total coliform rules, R 325.10704a to R 325.10704k.
(3) The standards required in these rules are incorporated by reference in R 325.10605.
History: 2015 MR 20, Eff. Oct. 16, 2015.

R 325.10704c Total coliform; general monitoring.
Rule 704c. (1) Sample siting plan requirements for compliance with the total coliform rules in R 325.10704a are all of the following:
(a) Supplies shall develop a written sample siting plan that identifies sampling sites and a sample collection schedule that are representative of water throughout the distribution system not later than March 31, 2016. These plans are subject to department review and revision. Supplies shall collect total coliform samples according to the written sample siting plan. Monitoring required by R 325.10704d to R 325.10704h may take place at a customer's premise, dedicated sampling station, or other designated compliance sampling location. Routine and repeat sample sites and the sampling points necessary to meet the requirements of the groundwater rules of R 325.10739 to R 325.10739b shall be reflected in the sampling plan.
(b) Supplies shall collect samples at regular time intervals throughout the month, except that supplies that use only ground water and serve 4,900 or fewer people may collect all required samples on a single day if they are taken from different sites.

(c) Supplies shall take at least the minimum number of required samples even if the supply has had an E. coli MCL violation or has exceeded the coliform treatment technique triggers in R 325.10704i(1).
(d) A supply may conduct more compliance monitoring than is required by these total coliform rules R 325.10704a to R 325.10704k to investigate potential problems in the distribution system and use monitoring as a tool to assist in uncovering problems. A supply may take more than the minimum number of required routine samples and shall include the results in calculating whether the coliform treatment technique trigger in R 325.10704i(1)(a)(i) and (ii) has been exceeded only if the samples are taken in accordance with the existing sample siting plan and are representative of water throughout the distribution system.
(e) Supplies shall identify repeat monitoring locations in the sample siting plan. All of the following apply to repeat monitoring locations:
(i) Unless the provisions of paragraph (iii) of this subdivision are met, the supply shall collect at least 1 repeat sample from the sampling tap where the original total coliform-positive sample was taken, and at least 1 repeat sample at a tap within 5 service connections upstream and at least 1 repeat sample at a tap within 5 service connections downstream of the original sampling site. If a total coliform-positive sample is at the end of the distribution system, or 1 service connection away from the end of the distribution system, the supply shall still take all required repeat samples. However, the department may allow an alternative sampling location instead of the requirement to collect at least 1 repeat sample upstream or downstream of the original sampling site.
(ii) Supplies required to conduct triggered source water monitoring under R 325.10739(1)(a) shall take ground water source sample or samples in addition to repeat samples required under these total coliform rules R 325.10704a to R 325.10704k.
(iii) Supplies may propose repeat monitoring locations to the department that the supply believes to be representative of a pathway for contamination of the distribution system. A supply may elect to specify either alternative fixed locations or criteria for selecting repeat sampling sites on a situational basis in a standard operating procedure (SOP) in its sample siting plan. The supply shall design its SOP to focus the repeat samples at locations that best verify and determine the extent of potential contamination of the distribution system area based on specific situations. The department may modify the SOP or require alternative monitoring locations as needed.
(f) The department may review, revise, and approve, as appropriate, repeat sampling proposed by supplies under subdivision (e)(iii) of this subrule. The supply shall demonstrate that the sample siting plan remains representative of the water quality in the distribution system. The department may determine that monitoring at the entry point to the distribution system (especially for undisinfected ground water supplies) is effective to differentiate between potential source water and distribution system problems.
(2) Special purpose samples, such as those taken to determine whether disinfection practices are sufficient following pipe placement, replacement, or repair, shall not be used to determine whether the coliform treatment technique trigger has been exceeded. Repeat samples taken under R 325.10704h are not considered special purpose samples, and shall be used to determine whether the coliform treatment technique trigger has been exceeded.
(3) A total coliform-positive sample invalidated under this subrule does not count toward meeting the minimum monitoring requirements of these total coliform rules R 325.10704a to R 325.10704k. A sample is invalidated under either of the following:
(a) The department may invalidate a total coliform-positive sample only if 1 or more of the following conditions are met:
(i) The laboratory establishes that improper sample analysis caused the total coliform-positive result.
(ii) The department, on the basis of the results of repeat samples collected as required under R 325.10704h(1), determines that the total coliform-positive sample resulted from a domestic or other non-distribution system plumbing problem. For example, the department determines that the total coliform-positive sample result, which is from a sample tap that is approved in the sample siting plan, is isolated to that specific sample location. The department shall not invalidate a sample on the basis of repeat sample results unless both of the following occur:
(A) All repeat sample or samples collected at the same tap as the original total coliform-positive sample are also total coliform-positive.
(B) All repeat samples collected at a location other than the original tap are total coliform-negative.
Note to subdivision (ii) of this subrule: For example, the department shall not invalidate a total coliform-positive sample on the basis of repeat samples if all the repeat samples are total coliform-negative, or if the supply has only 1 service connection.
(iii) The department has substantial grounds to believe that a total coliform-positive result is due to a circumstance or condition that does not reflect water quality in the distribution system, such as use of an unapproved sample location or documented gross deviation from accepted sample collection procedures that clearly could be expected to contaminate the sample itself. In this case, the supply shall still collect all repeat samples required under R 325.10704h(1), and use them to determine whether a coliform treatment technique trigger in R 325.10704i has been exceeded. To invalidate a

total coliform-positive sample under this subdivision, the decision and supporting rationale shall be documented in writing, and approved and signed by the supervisor of the department official who recommended the decision. The department shall make this document available to the EPA and the public. The written documentation shall state the specific cause of the total coliform-positive sample, and what action the supply has taken, or will take, to correct this problem. The department shall not invalidate a total coliform-positive sample solely on the grounds that all repeat samples are total coliform-negative.
(b) Both of the following apply to laboratory invalidation of a sample:
(i) A laboratory shall invalidate a total coliform sample, unless total coliforms are detected, if 1 or more of the following occur:
(A) The sample produces a turbid culture in the absence of gas production using an analytical method where gas formation is examined, for example, the multiple-tube fermentation technique.
(B) The sample produces a turbid culture in the absence of an acid reaction in the presence-absence (p-a) coliform test.
(C) The sample exhibits confluent growth or produces colonies too numerous to count with an analytical method using a membrane filter, for example, membrane filter technique.
(ii) If a laboratory invalidates a sample because of the interference, the supply shall collect another sample from the same location as the original sample within 24 hours of being notified of the interference problem, and have it analyzed for the presence of total coliforms. The supply shall continue to resample within 24 hours and have the samples analyzed until it obtains a valid result. The department may waive the 24-hour time limit on a case-by-case basis.
History: 2015 MR 20, Eff. Oct. 16, 2015.

R 325.10704d Total coliform; routine monitoring; noncommunity; serving 1,000 or fewer people; groundwater.
Rule 704d. (1) General total coliform rules routine monitoring requirements are all of the following:
(a) This rule applies to noncommunity water supplies using only ground water, except ground water under the direct influence of surface water, as defined in R 325.10105 and serving 1,000 or fewer people.
(b) Following a total coliform-positive sample taken under this rule, supplies shall comply with the repeat monitoring requirements and E. coli analytical requirements in R 325.10704h.
(c) Once all monitoring required by this rule and R 325.10704h for a calendar month has been completed, supplies shall determine whether 1 or more coliform treatment technique triggers in R 325.10704i have been exceeded. If 1 or more trigger has been exceeded, supplies shall complete assessments under R 325.10704i.
(d) For the purpose of determining eligibility for remaining on or qualifying for quarterly monitoring under subrules (6)(a)(iv) and (7)(d) of this rule, respectively, for transient noncommunity water supplies, the department may elect not to count monitoring violations under R 325.10704j(3)(a) if the missed sample is collected no later than the end of the monitoring period following the monitoring period in which the sample was missed. The supply shall collect the make-up sample in a different week than the routine sample for that monitoring period and should collect the sample as soon as possible during the monitoring period. The department shall not use this provision to reduce monitoring for a supply on increased monitoring in subrule (7) of this rule. This authority does not affect monitoring violations in R 325.10704j(3)(a) and reporting requirements in R 325.10704k(1)(d).
(2) Supplies shall monitor each calendar quarter that the supply provides water to the public, except for seasonal supplies or as provided under subrules (3) to (8) and (10) of this rule. Seasonal supplies shall meet the monitoring requirements of subrule (9) of this rule.
(3)Transition to total coliform rules R 325.10704a to R 325.10704k are both of the following requirements:
(a) Supplies, including seasonal supplies, shall continue to monitor according to the total coliform monitoring schedules under R 325.10702, R 325.10704, R 325.10705, R 325.10706, R 325.10707, R 325.10707a, R 325.10707b, and R 325.10709 that were in effect on March 31, 2016, unless 1 or more of the conditions for increased monitoring in subrule (6) of this rule are triggered on or after April 1, 2016, or unless otherwise directed by the department.
(b) Beginning April 1, 2016, the department shall perform a special monitoring evaluation during each sanitary survey to review the status of the supply, including the distribution system, to determine whether the supply is on an appropriate monitoring schedule. After the department has performed the special monitoring evaluation during each sanitary survey, the department may modify the supply's monitoring schedule, as necessary, or it may allow the supply to stay on its existing monitoring schedule, consistent with this rule. The department shall not allow supplies to begin less frequent monitoring under the special monitoring evaluation unless the supply has already met the applicable criteria for less frequent monitoring in this rule. For seasonal supplies on quarterly monitoring, this evaluation shall include review of the approved sample siting plan, which shall designate the time period or periods for monitoring based on site-specific considerations, for example, during periods of highest demand or highest vulnerability to contamination. The seasonal supply shall collect compliance samples during these time periods.

(4) Beginning no later than calendar year 2017, supplies on annual monitoring shall have an initial and recurring annual site visit by the department that is equivalent to a level 2 assessment or an annual voluntary level 2 assessment that meets the criteria in R 325.10704i(2) to remain on annual monitoring. The periodic required sanitary survey may be used to meet the requirement for an annual site visit for the year in which the sanitary survey was completed.
(5) Criteria for annual monitoring are both of the following:
(a) Beginning April 1, 2016, the department may reduce the monitoring frequency for a well-operated ground water supply from quarterly routine monitoring to at least annual monitoring, if the supply demonstrates that it meets all of the following criteria for reduced monitoring, except for a supply that has been on increased monitoring under subrule (6) of this rule:
(i) The supply has a clean compliance history for a minimum of 12 months.
(ii) The most recent sanitary survey shows that the supply is free of sanitary defects or has corrected all identified sanitary defects, has a protected water source, and meets approved construction standards.
(iii) The department has conducted an annual site visit within the last 12 months and the supply has corrected all identified sanitary defects. The supply may substitute a level 2 assessment that meets the criteria in R 325.10704i(2) for the department annual site visit.
(b) A supply on increased monitoring under subrule (6) of this rule shall meet the provisions of subrule (7) of this rule to go to quarterly monitoring and shall meet the provisions of subrule (8) of this rule to go to annual monitoring.
(6) Increased monitoring requirements for supplies on quarterly or annual monitoring are both of the following:
(a) A supply on quarterly or annual monitoring shall begin monthly monitoring the month following 1 or more of the following events, except as required in paragraph (v) of this subdivision:
(i) The supply triggers 1 level 2 assessment under R 325.10704i or 2 level 1 assessments under R 325.10704i in a rolling 12-month period.
(ii) The supply has an E. coli MCL violation.
(iii) The supply has a coliform treatment technique violation.
(iv) The supply on quarterly monitoring experiences either of the following events in a rolling 12-month period:
(A) Two total coliform monitoring violations.
(B) One total coliform monitoring violation and 1 level 1 assessment under R 325.10704i.
(v) The supply on annual monitoring has 1 total coliform rule monitoring violation. The supply shall begin quarterly monitoring the quarter following the event.
(b) The supply shall continue monthly or quarterly monitoring until the requirements in subrule (7) of this rule for quarterly monitoring or subrule (8) of this rule for annual monitoring are met. A supply on monthly monitoring for reasons other than those identified in subdivision (a)(i) to (iv) of this subrule is not considered to be on increased monitoring for the purposes of subrules (7) and (8) of this rule.
(7) The department may reduce the monitoring frequency for a supply on monthly monitoring triggered under subrule (6) of this rule to quarterly monitoring if the supply meets all of the following criteria:
(a) Within the last 12 months, the supply shall have a completed sanitary survey or a site visit by the department or a voluntary level 2 assessment by the department.
(b) The supply is free of sanitary defects.
(c) The supply has a protected water source.
(d) The supply has a clean compliance history for a minimum of 12 months.
(8) The department may reduce the monitoring frequency to annual monitoring for a supply on increased monitoring under subrule (6) of this rule if the supply meets the criteria in subrule (7) of this rule to reduce to quarterly monitoring plus both of the following criteria:
(a) An annual site visit by the department and correction of all identified sanitary defects. The supply may substitute a voluntary level 2 assessment by the department for the department annual site visit in a given year.
(b) The supply shall have in place or adopt 1 or more of the following additional enhancements to the water supply barriers to contamination:
(i) Cross connection control, as approved by the department.
(ii) An operator certified by the department or regular visits by a circuit rider certified by the department.
(iii) Continuous disinfection entering the distribution system and a residual in the distribution system under criteria specified by the department.
(iv) Demonstration of maintenance of at least a 4-log removal or inactivation of viruses as provided for under R 325.10739a(3).
(v) Other equivalent enhancements to water supply barriers as approved by the department.
(9) Seasonal supplies shall comply with all of the following:

(a) Beginning April 1, 2016, all seasonal supplies shall complete the department-approved start-up procedure, which may include a requirement for startup sampling, and submit a certification to the department, before serving water to the public, that it has completed the department-approved start-up procedures.
(b) A seasonal supply shall monitor every month that it is in operation unless it is eligible for quarterly monitoring beginning April 1, 2016, except as provided in subrule (3) of this rule. Seasonal supplies shall not reduce to annual monitoring. To be eligible for quarterly monitoring, a seasonal system shall meet both of the following criteria:
(i) Have an approved sample siting plan that designates the time period for monitoring based on site-specific considerations, for example, during periods of highest demand or highest vulnerability to contamination. Seasonal supplies shall collect compliance samples during this time period.
(ii) Meet the criteria in subrule (7) of this rule.
(c) The department may exempt a seasonal supply from some or all of the requirements for seasonal supplies if the entire distribution system remains pressurized during the entire period that the supply is not operating, except that supplies that monitor less frequently than monthly shall monitor during the vulnerable period designated by the department.
(10) Supplies collecting samples on a quarterly or annual frequency shall conduct additional routine monitoring the month following 1 or more total coliform-positive samples, with or without a level 1 treatment technique trigger. Supplies shall collect at least 3 routine samples during the next month. Supplies may either collect samples at regular time intervals throughout the month or may collect all required routine samples on a single day if samples are taken from different sites. Supplies shall use the results of additional routine samples in coliform treatment technique trigger calculations under R 325.10704i(1). The department may waive the requirement to collect 3 routine samples the next month in which the supply provides water to the public if 1 or more of the following conditions are met:
(a) The department, or an agent approved by the department, performs a site visit before the end of the next month in which the supply provides water to the public. Although a sanitary survey need not be performed, the site visit shall be sufficiently detailed to allow the department to determine whether additional monitoring or corrective action, or both, is needed. The department shall not approve an employee of the supply to perform this site visit, even if the employee is an agent approved by the department to perform sanitary surveys.
(b) The department has determined why the sample was total coliform-positive and has established that the supply has corrected the problem or will correct the problem before the end of the next month in which the supply serves water to the public. In this case, the department shall document this decision to waive the following month's additional monitoring requirement in writing, have it approved and signed by the supervisor of the department official who recommends the decision, and make this document available to the EPA and public. The written documentation shall describe the specific cause of the total coliform-positive sample and what action the supply has taken and/or will take to correct this problem.
(c) The department determines that the supply has corrected the contamination problem before the supply takes the set of repeat samples required in R 325.10704h, and all repeat samples were total coliform-negative. The department shall not waive the requirement to collect 3 additional routine samples the next month in which the supply provides water to the public solely on the grounds that all repeat samples are total coliform-negative.
History: 2015 MR 20, Eff. Oct. 16, 2015.

R 325.10704e Total coliform; routine monitoring; community; serving 1,000 or fewer people; groundwater.
Rule 704e. (1) General total coliform rules routine monitoring requirements are all of the following:
(a) This rule applies to community water supplies using only ground water, except ground water under the direct influence of surface water, as defined in R 325.10105 and serving 1,000 or fewer people.
(b) Following a total coliform-positive sample taken under this rule, supplies shall comply with the repeat monitoring requirements and E. coli analytical requirements in R 325.10704h.
(c) Once all monitoring required by this rule and R 325.10704h for a calendar month has been completed, supplies shall determine whether 1 or more coliform treatment technique triggers in R 325.10704i have been exceeded. If a trigger has been exceeded, supplies shall complete assessments under R 325.10704i.
(2) The monitoring frequency for total coliforms is 1 sample per month. Supplies shall not reduce monitoring frequency.
History: 2015 MR 20, Eff. Oct. 16, 2015.

R 325.10704f Total coliform; routine monitoring; subpart H; serving 1,000 or fewer people.
Rule 704f. (1) General total coliform rules routine monitoring requirements are all of the following:
(a) This rule applies to subpart H community and noncommunity water supplies serving 1,000 or fewer people.
(b) Following a total coliform-positive sample taken under this rule, supplies shall comply with the repeat monitoring requirements and E. coli analytical requirements in R 325.10704h.

(c) Once all monitoring under this rule and R 325.10704h for a calendar month has been completed, supplies shall determine whether 1 or more coliform treatment technique triggers in R 325.10704i have been exceeded. If a trigger has been exceeded, supplies shall complete assessments under R 325.10704i.
(d) Seasonal supplies shall comply with both of the following:
(i) Beginning April 1, 2016, all seasonal supplies shall complete the department-approved start-up procedure, which may include a requirement for startup sampling, and submit a certification to the department, before serving water to the public, that it has completed the department-approved start-up procedures.
(ii) The department may exempt a seasonal supply from some or all of the requirements for seasonal supplies if the entire distribution system remains pressurized during the entire period that the supply is not operating.
(2) Routine monitoring frequency for total coliforms. Subpart H supplies, including consecutive supplies shall monitor monthly. Supplies shall not reduce monitoring.
History: 2015 MR 20, Eff. Oct. 16, 2015.

R 325.10704g Total coliform; routine monitoring; community and noncommunity; serving more than 1,000 people.
Rule 704g. (1) General total coliform rules routine monitoring requirements are all of the following:
(a) This rule applies to community and noncommunity water supplies serving more than 1,000 persons.
(b) Following a total coliform-positive sample taken under this rule, supplies shall comply with the repeat monitoring requirements and E. coli analytical requirements in R 325.10704h.
(c) Once all monitoring required by this rule and R 325.10704h for a calendar month has been completed, supplies shall determine whether 1 or more coliform treatment technique triggers in R 325.10704i have been exceeded. If a trigger has been exceeded, supplies shall complete assessments under R 325.10704i.
(d) Seasonal supplies shall comply with both of the following:
(i) Beginning April 1, 2016, all seasonal supplies shall complete the department-approved start-up procedure, which may include a requirement for startup sampling, and submit a certification to the department, before serving water to the public, that it has completed the department-approved start-up procedures.
(ii) The department may exempt a seasonal supply from some or all of the requirements for seasonal supplies if the entire distribution system remains pressurized during the entire period that the supply is not operating.
(2) The monitoring frequency for total coliforms is based on the population served by the supply, as follows:

Total Coliform Monitoring Frequency for Community and Noncommunity Water Supplies Serving More Than 1,000 People

Population served	Minimum number of samples per month
1,001 to 2,500	2
2,501 to 3,300	3
3,301 to 4,100	4
4,101 to 4,900	5
4,901 to 5,800	6
5,801 to 6,700	7
6,701 to 7,600	8
7,601 to 8,500	9
8,501 to 12,900	10
12,901 to 17,200	15
17,201 to 21,500	20
21,501 to 25,000	25
25,001 to 33,000	30
33,001 to 41,000	40
41,001 to 50,000	50
50,001 to 59,000	60
59,001 to 70,000	70
70,001 to 83,000	80
83,001 to 96,000	90
96,001 to 130,000	100
130,001 to 220,000	120
220,001 to 320,000	150

320,001 to 450,000	180
450,001 to 600,000	210
600,001 to 780,000	240
780,001 to 970,000	270
970,001 to 1,230,000	300
1,230,001 to 1,520,000	330
1,520,001 to 1,850,000	360
1,850,001 to 2,270,000	390
2,270,001 to 3,020,000	420
3,020,001 to 3,960,000	450
3,960,001 or more	480

(3) Supplies shall not reduce monitoring, except for noncommunity water supplies using only ground water, and not ground water under the direct influence of surface water, serving 1,000 or fewer people in some months and more than 1,000 persons in other months. In months when more than 1,000 persons are served, the supplies shall monitor at the frequency in subrule (2) of this rule. In months when 1,000 or fewer people are served, the department may reduce the monitoring frequency, in writing, to a frequency allowed under R 325.10704d for a similarly situated supply that always serves 1,000 or fewer people, considering the requirements of R 325.10704d(5) to (7).
History: 2015 MR 20, Eff. Oct. 16, 2015.

R 325.10704h Total coliform; repeat monitoring; E. coli.
Rule 704h. (1) Total coliform rules repeat monitoring requirements are all of the following:
(a) If a sample taken under R 325.10704d to R325.10704g is total coliform-positive, the supply shall collect a set of repeat samples within 24 hours of being notified of the positive result. The supply shall collect not fewer than 3 repeat samples for each total coliform-positive sample found. The department may extend the 24-hour limit on a case-by-case basis if the supply has a logistical problem in collecting the repeat samples within 24 hours that is beyond its control. In the case of an extension, the department shall specify how much time the system has to collect the repeat sample. The department shall not waive the requirement for a supply to collect repeat samples in this subdivision and subdivisions (b) to (c) of this subrule.
(b) The supply shall collect all repeat samples on the same day, except that the department may allow a supply with a single service connection to collect the required set of repeat samples over a 3-day period or to collect a larger volume repeat sample or samples in 1 or more sample containers of any size, as long as the total volume collected is at least 300 ml.
(c) The supply shall collect an additional set of repeat samples in the manner specified in subdivisions (a) and (b) and this subdivision of this subrule if 1 or more repeat samples in the current set of repeat samples is total coliform-positive. The supply shall collect the additional set of repeat samples within 24 hours of being notified of the positive result, unless the department extends the limit under subdivision (a) of this subrule. The supply shall continue to collect additional sets of repeat samples until either total coliforms are not detected in 1 complete set of repeat samples or the supply determines that a coliform treatment technique trigger specified in R 325.10704i(1) has been exceeded as a result of a repeat sample being total coliform-positive and notifies the department. If a trigger identified in R 325.10704i is exceeded as a result of a routine sample being total coliform-positive, the supply shall conduct 1 round of repeat monitoring, but is not required to conduct more than 1 round of repeat monitoring for each total coliform-positive routine sample.
(d) After a supply collects a routine sample and before it learns the results of the analysis of that sample, if it collects another routine sample or samples from within 5 adjacent service connections of the initial sample, and the initial sample, after analysis, is found to contain total coliforms, then the supply may count the subsequent sample or samples as a repeat sample instead of as a routine sample.
(e) Results of all routine and repeat samples taken under R 325.10704d to R 325.10704h not invalidated by the department shall be used to determine whether a coliform treatment technique trigger in R 325.10704i has been exceeded.
(2) Escherichia coli (E. coli) testing requirements are both of the following:
(a) If a routine or repeat sample is total coliform-positive, the supply shall analyze that total coliform-positive culture medium to determine if E. coli are present. If E. coli are present, the supply shall notify the department by the end of the day when the supply is notified of the test result, unless the supply is notified of the result after the department office is closed and the department does not have either an after-hours phone line or an alternative notification procedure, in which case the supply shall notify the department before the end of the next business day.

(b) The department may allow a supply, on a case-by-case basis, to forgo E. coli testing on a total coliform-positive sample if the supply assumes that the total coliform-positive sample is E. coli-positive. Accordingly, the supply shall notify the department under subdivision (a) of this subrule and the E. coli maximum contaminant level provisions of R 325.10602(1) apply.
History: 2015 MR 20, Eff. Oct. 16, 2015.

R 325.10704i Total coliform; treatment technique triggers; assessments.
Rule 704i. (1) Supplies shall conduct assessments under subrule (2) of this rule after exceeding treatment technique triggers in this subrule.
(a) Level 1 treatment technique triggers are all of the following:
(i) For supplies taking 40 or more samples per month, the supply exceeds 5.0% total coliform-positive samples for the month.
(ii) For supplies taking fewer than 40 samples per month, the supply has 2 or more total coliform-positive samples in the same month.
(iii) The supply fails to take every required repeat sample after a single total coliform-positive sample.
(b) Level 2 treatment technique triggers are all of the following:
(i) An E. coli MCL violation in R 325.10704j(1).
(ii) A second level 1 trigger as defined in subdivision (a) of this subrule, within a rolling 12-month period, unless the department has determined a likely reason that the samples that caused the first level 1 treatment technique trigger were total coliform-positive and has established that the supply has corrected the problem.
(iii) For supplies with approved annual monitoring, a level 1 trigger in 2 consecutive years.
(2) Assessment requirements are all of the following:
(a) Supplies shall ensure that level 1 and 2 assessments are conducted to identify the possible presence of sanitary defects and defects in distribution system coliform monitoring practices. Level 2 assessments shall be conducted by the department.
(b) When conducting assessments, supplies shall ensure that the assessor evaluates all of the following minimum elements:
(i) Review and identification of inadequacies in sample sites.
(ii) Sampling protocol.
(iii) Sample processing.
(iv) Atypical events that could affect distributed water quality or indicate that distributed water quality was impaired.
(v) Changes in distribution system maintenance and operation that could affect distributed water quality, including water storage.
(vi) Source and treatment considerations that bear on distributed water quality, where appropriate, for example, small ground water supplies.
(vii) Existing water quality monitoring data.
Note to subdivision (b) of this subrule: The supply shall conduct the assessment consistent with department directives that tailor specific assessment elements with respect to the size and type of the supply and the size, type, and characteristics of the distribution system.
(c) A supply shall conduct a level 1 assessment consistent with department requirements if the supply exceeds 1 of the level 1 treatment technique triggers in subrule (1)(a) of this rule. All of the following apply to level 1 assessments:
(i) The supply shall complete a level 1 assessment as soon as practical after a trigger in subrule (1)(a) of this rule. In the completed assessment form, the supply shall describe sanitary defects detected, corrective actions completed, and a proposed timetable for each corrective action not already completed. The assessment form may also note that no sanitary defects were identified. The supply shall submit the completed level 1 assessment form to the department within 30 days after the supply learns that it has exceeded a trigger.
(ii) If the department reviews the completed level 1 assessment and determines that the assessment is not sufficient, including the proposed timetable for each corrective action not already completed, the department shall consult with the supply. If the department requires revisions after consultation, the supply shall submit a revised assessment form to the department on an agreed-upon schedule not to exceed 30 days from the date of the consultation.
(iii) Upon completion and submission of the assessment form by the supply, the department shall determine if the supply has identified a likely cause for the level 1 trigger and, if so, establish that the supply has corrected the problem, or has included a schedule acceptable to the department for correcting the problem.
(d) A supply shall undergo a level 2 assessment if the supply exceeds 1 of the treatment technique triggers in subrule (1)(b) of this rule. The supply shall comply with any expedited actions or additional actions required by the department in the case of an E. coli MCL violation. The supply shall undergo a level 2 assessment by the department as soon as

practical after a trigger in subrule (1)(b) of this rule. The assessment form shall describe sanitary defects detected, corrective actions completed, and a timetable for each corrective action not already completed. The assessment form may also note that no sanitary defects were identified. The department shall determine whether the likely cause for the Level 2 trigger has been identified and whether the supply has corrected the problem.
(3) Supplies shall correct sanitary defects found through either level 1 or 2 assessments conducted under subrule (2) of this rule. For corrections not completed by the time of submission of the assessment form, the supply shall complete the corrective action or actions in compliance with a timetable approved by the department in consultation with the supply. The supply shall notify the department when each scheduled corrective action is completed.
(4) At any time during the assessment or corrective action phase, either the water supply or the department may request a consultation with the other person to determine the appropriate actions to be taken. The supply may consult with the department on all relevant information that may impact on its ability to comply with a requirement of these total coliform rules R 325.10704a to R 325.10704k, including the method of accomplishment, an appropriate time frame, and other relevant information.
History: 2015 MR 20, Eff. Oct. 16, 2015.

R 325.10704j Total coliform; violations.
Rule 704j. (1) A supply is in violation of the MCL for E. coli when 1 or more of the following conditions occur:
(a) The supply has an E. coli-positive repeat sample following a total coliform-positive routine sample.
(b) The supply has a total coliform-positive repeat sample following an E. coli-positive routine sample.
(c) The supply fails to take all required repeat samples following an E. coli-positive routine sample.
(d) The supply fails to test for E. coli when a repeat sample tests positive for total coliform.
(2) Treatment technique violations are both of the following:
(a) A supply exceeds a treatment technique trigger in R 325.10704i(1) and then fails to conduct the required assessment or corrective actions within the time frame in R 325.10704i(2) and (3).
(b) A seasonal supply fails to complete a department-approved start-up procedure before serving water to the public.
(3) Monitoring violations are both of the following:
(a) Failure to take every required routine or additional routine sample in a compliance period.
(b) Failure to analyze for E. coli following a total coliform-positive routine sample.
(4) Reporting violations are all of the following:
(a) Failure to submit a monitoring report or completed assessment form after a supply properly conducts monitoring or assessment in a timely manner.
(b) Failure to notify the department following an E. coli-positive sample under R 325.10704h(2)(a) in a timely manner.
(c) Failure to submit certification of completion of department-approved start-up procedure by a seasonal supply.
History: 2015 MR 20, Eff. Oct. 16, 2015.

R 325.10704k Total coliform; reporting and recordkeeping.
Rule 704k. (1) Reporting requirements for supplies subject to the total coliform rules in R 325.10704a are all of the following:
(a) E. coli reporting requirements are both of the following:
(i) A supply shall notify the department by the end of the day when the supply learns of an E. coli MCL violation, unless the supply learns of the violation after the department office is closed and the department does not have either an after-hours phone line or an alternative notification procedure, in which case the supply shall notify the department before the end of the next business day, and notify the public under R 325.10401a to R 325.10409.
(ii) A supply shall notify the department by the end of the day when the supply is notified of an E. coli-positive routine sample, unless the supply is notified of the result after the department office is closed and the department does not have either an after-hours phone line or an alternative notification procedure, in which case the supply shall notify the department before the end of the next business day.
(b) A supply that has violated the treatment technique for coliforms in R 325.10704i shall report the violation to the department no later than the end of the next business day after it learns of the violation, and notify the public under R 325.10401a to R 325.10409.
(c) A supply required to conduct an assessment under R 325.10704i shall submit the assessment report within 30 days. The supply shall notify the department under R 325.10704i(3) when each scheduled corrective action is completed for corrections not completed by the time of submission of the assessment form.
(d) A supply that has failed to comply with a coliform monitoring requirement shall report the monitoring violation to the department within 10 days after the supply discovers the violation, and notify the public under R 325.10401a to R 325.10409.

(e) A seasonal supply shall submit a certification to the department, before serving water to the public, that it has completed the department-approved start-up procedures.
(2) A supply shall maintain records under R 325.11510.
History: 2015 MR 20, Eff. Oct. 16, 2015.

R 325.10705
Source: 2002 AACS.

R 325.10706
Source: 2003 AACS.

R 325.10707
Source: 1991 AACS.

R 325.10707a
Source: 2009 AACS.

R 325.10707b
Source: 2003 AACS.

R 325.10708 Collection of additional samples.
Rule 708. (1) A single sample shall not be attributed to more than 1 monitoring period.
(2) If a sample that is needed to meet monitoring requirements is invalidated under these rules, and the public water supply does not learn of the invalidation until after the monitoring period has ended, and the supply collects a valid sample when they learn of the invalidation, then the valid sample may be used to determine compliance with these rules for the monitoring period that has ended.
(3) If the department collects a sample for the purpose of enforcement when a public water supply is delinquent in meeting a monitoring requirement, then the sample collected after the monitoring period has ended may be used to determine compliance with these rules for the monitoring period that has ended.
History: 1979 AC; 1991 AACS; 2009 AACS; 2015 MR 20, Eff. Oct. 16, 2015.

R 325.10709
Source: 1998-2000 AACS.

R 325.10710
Source: 2005 AACS.

R 325.10710a Lead and copper in tap water; monitoring requirements.
Rule 710a. (1) Sample site location provisions for lead and copper monitoring in tap water of community and nontransient noncommunity water supplies are as follows:
(a) By the applicable date for the commencement of monitoring under subrule (4)(a) of this rule, each water supply shall complete a materials evaluation of its distribution system to identify a pool of targeted sampling sites that is in compliance with the requirements of this rule and that is large enough to ensure that the water supply can collect the number of lead and copper tap samples required under subrule (3) of this rule. All sites from which first draw samples are collected shall be selected from the pool of targeted sampling sites. Sampling sites may not include faucets that have point of use or point of entry treatment devices designed to remove inorganic contaminants.
(b) A water supply shall use the information on lead, copper, and galvanized steel that it is required to collect under 40 C.F.R. §141.42(d), (Special Monitoring for Corrosivity Characteristics) when conducting a materials evaluation. When an evaluation of the information collected under 40 C.F.R. §141.42(d), is insufficient to locate the requisite number of lead and copper sampling sites that are in compliance with the targeting criteria in this subrule, the water supply shall review the sources of information listed in paragraphs (i) to (iii) of this subdivision to identify a sufficient number of sampling sites. The provisions of 40 C.F.R. §141.42(d) are adopted by reference in R 325.10112. In addition, the supply shall collect all of the following information, where possible, in the course of its normal operations, for example, checking service line materials when reading water meters or performing maintenance activities:
(i) All plumbing codes, permits, and records in the files of the building department or departments that indicate the plumbing materials installed within publicly and privately owned structures connected to the distribution system.

(ii) All inspections and records of the distribution system that indicate the material composition of the service connections connecting a structure to the distribution system.
(iii) All existing water quality information, which includes the results of all prior analyses of the system or individual structures connected to the system, that indicates locations which may be particularly susceptible to high lead or copper concentrations.
(c) The sampling sites selected for a community water supply's sampling pool (tier 1 sampling sites) shall consist of single family structures to which either or both of the following provisions apply:
(i) The structures contain copper pipes soldered with lead and installed after 1982 or that contain lead pipes.
(ii) The structures are served by a lead service line. When multiple family residences comprise not less than 20% of the structures served by a water supply, the supply may include these types of structures in its sampling pool.
(d) A community water supply that has insufficient tier 1 sampling sites shall complete its sampling pool with tier 2 sampling sites, that consist of buildings, including multiple family residences to which either or both of the following provisions apply:
(i) The structures contain copper pipes soldered with lead and installed after 1982 or that contain lead pipes.
(ii) The structures are served by a lead service line.
(e) A community water supply that has insufficient tier 1 and tier 2 sampling sites shall complete its sampling pool with tier 3 sampling sites, that consist of single family structures containing copper pipes soldered with lead and installed before 1983. A community water supply with insufficient tier 1, tier 2, and tier 3 sampling sites shall complete its sampling pool with representative sites throughout the distribution system. For purposes of this subrule, a representative site is a site in which the plumbing materials used at that site would be commonly found at other sites served by the system.
(f) The sampling sites selected for a nontransient, noncommunity water supply (tier 1 sampling sites) shall consist of buildings to which either or both of the following provisions apply:
(i) The structures contain copper pipes soldered with lead and installed after 1982 or that contain lead pipes.
(ii) The structures are served by a lead service line.
(g) A nontransient, noncommunity water supply that has insufficient tier 1 sites shall complete its sampling pool with sampling sites containing copper pipes soldered with lead and installed before 1983. If additional sites are needed to complete the sampling pool, the nontransient noncommunity water supply shall use representative sites throughout the distribution system. For purposes of this subrule, a representative site is a site in which the plumbing materials used at that site would be commonly found at other sites served by the system.
(h) A water supply whose distribution system contains lead service lines shall draw 50% of the samples it collects during each monitoring period from sites that contain lead pipes or copper pipes with lead solder and 50% of the samples from sites served by a lead service line. A water supply that cannot identify a sufficient number of sampling sites that are served by a lead service line shall collect first draw tap samples from all of the sites identified as being served by lead service lines and shall complete its sampling pool in compliance with subdivisions (c) to (g) of this subrule.
(2) Sample collection methods provisions for lead and copper monitoring in tap water are as follows:
(a) All tap samples for lead and copper collected in compliance with this subrule, with the exception of lead service line samples collected under R 325.10604f(5)(c), and samples collected under subdivision (e) of this subrule, shall be first draw samples.
(b) Each first draw tap sample for lead and copper shall be 1 liter in volume and have stood motionless in the plumbing system of each sampling site for not less than 6 hours. First draw samples from residential housing shall be collected from the cold water kitchen tap or bathroom sink tap. First draw samples from a nonresidential building shall be 1 liter in volume and shall be collected at an interior tap from which water is typically drawn for consumption. Non-first draw samples collected instead of first draw samples under subdivision (e) of this subrule shall be 1 liter in volume and shall be collected at an interior tap from which water is typically drawn for consumption. First draw samples may be collected by the supply or the supply may allow residents to collect first draw samples after instructing the residents about the sampling procedures specified in this subdivision. To avoid problems of residents handling nitric acid, acidification of first draw samples may be done up to 14 days after the sample is collected. After acidification to resolubilize the metals, the sample shall stand in the original container for the time specified in the approved EPA method before the sample can be analyzed. If a supply allows residents to perform sampling, the supply shall not challenge the accuracy of the sampling results based on alleged errors in sample collection.
(c) Each service line sample shall be 1 liter in volume and have stood motionless in the lead service line for not less than 6 hours. Lead service line samples shall be collected in 1 of the following ways:
(i) At the tap after flushing the volume of water between the tap and the lead service line. The volume of water shall be calculated based on the interior diameter and length of the pipe between the tap and the lead service line.
(ii) Tapping directly into the lead service line.

(iii) If the sampling site is a building constructed as a single family residence, allowing the water to run until there is a significant change in temperature which would be indicative of water that has been standing in the lead service line.
(d) A water supply shall collect each first draw tap sample from the same sampling site from which it collected a previous sample. If, for any reason, the water supply cannot gain entry to a sampling site to collect a follow-up tap sample, the supply may collect the follow-up tap sample from another sampling site in its sampling pool.
(e) A nontransient noncommunity water supply, or a community water supply that meets the criteria of R 325.10410(3)(g), that does not have enough taps that can supply first draw samples, as defined in R 325.10105, may apply to the department, in writing, to substitute non-first draw samples. The supply shall collect as many first draw samples from appropriate taps as possible and identify sampling times and locations that would likely result in the longest standing time for the remaining sites. The department has the discretion to waive the requirement for prior department approval of non-first draw sample sites selected by the supply, either through department regulation or written notification to the supply.
(3) Water supplies shall collect at least 1 sample during each monitoring period specified in subrule (4) of this rule from the number of sites listed in the standard monitoring column under this subrule. A supply that conducts reduced monitoring under subrule (4)(d) of this rule shall collect at least 1 sample from the number of sites specified in the reduced monitoring column under this subrule during each monitoring period specified in subrule (4)(d) of this rule. The reduced monitoring sites shall be representative of the sites required for standard monitoring. A public water supply that has fewer than 5 drinking water taps, that can be used for human consumption meeting the sample site criteria of subrule (1) of this rule to reach the required number of sample sites listed in this subrule, shall collect at least 1 sample from each tap and then shall collect additional samples from those taps on different days during the monitoring period to meet the required number of sites. Alternatively the department may allow these public water supplies to collect a number of samples less than the number of sites specified in this rule, provided that 100% of all taps that can be used for human consumption are sampled. The department shall approve this reduction of the minimum number of samples in writing based on a request from the supply or onsite verification by the department. The department may specify sampling locations when a water supply is conducting reduced monitoring.

Supply Size (Number of People Served)	Number of Sites (Standard Monitoring)	Number of Sites (Reduced Monitoring)
More than 100,000	100	50
10,001 to 100,000	60	30
3,301 to 10,000	40	20
501 to 3,300	20	10
101 to 500	10	5
Fewer than 101	5	5

(4) Provisions for the timing of monitoring for lead and copper in tap water are as follows:
(a) The first 6-month monitoring period for small, medium size, and large water supplies shall begin on the following dates:

Supply Size (Number of People Served)	First 6-Month Monitoring Period Begins On
More than 50,000	January 1, 1992
3,301 to 50,000	July 1, 1992
Fewer than 3,301	July 1, 1993

All large water supplies shall be monitored during 2 consecutive 6-month periods. All small and medium size water supplies shall be monitored during each 6-month monitoring period until either of the following occurs:
(i) The supply exceeds the lead or copper action level and is therefore required to implement the corrosion control treatment under R 325.10604f(2), in which case the supply shall continue monitoring under subdivision (b) of this subrule.
(ii) The supply is in compliance with the lead and copper action levels during 2 consecutive 6-month monitoring periods, in which case the supply may reduce monitoring under subdivision (d) of this subrule.
(b) Monitoring provisions after the installation of corrosion control and source water treatment are as follows:
(i) A large water supply that installs optimal corrosion control treatment under R 325.10604f(2)(d)(iii) shall monitor during 2 consecutive 6-month monitoring periods by the date specified in R 325.10604f(2)(d)(iv).

(ii) A small or medium size water supply that installs optimal corrosion control treatment under R 325.10604f(2)(e)(iv) shall monitor during 2 consecutive 6-month monitoring periods by the date specified in R 325.10604f(2)(e)(v).
(iii) A supply that installs source water treatment under R 325.10604f(4)(a)(ii) shall monitor during 2 consecutive 6-month monitoring periods by the date specified in R 325.10604f(4)(a)(iii).
(c) After the department specifies the values for water quality control parameters, the supply shall monitor during each subsequent 6-month monitoring period, with the first monitoring period to begin on the date the department specifies the optimal values.
(d) Reduced monitoring provisions are as follows:
(i) A small or medium size water supply that is in compliance with the lead and copper action levels during each of 2 consecutive 6-month monitoring periods may reduce the number of samples under subrule (3) of this rule and may reduce the frequency of sampling to once each year. A small or medium size water supply collecting fewer than 5 samples as specified in subrule (3) of this rule, that meets the lead and copper action levels during each of 2 consecutive 6-month monitoring periods may reduce the frequency of sampling to once per year. In no case can the supply reduce the number of samples required below the minimum of 1 sample per available tap. This sampling shall begin during the calendar year immediately following the end of the second consecutive 6-month monitoring period.
(ii) A water supply that meets the lead action level and maintains the range of values for the water quality control parameters reflecting optimal corrosion control treatment specified by the department under R 325.10604f(3)(f) during each of 2 consecutive 6-month monitoring periods may reduce the frequency of monitoring to once each year and reduce the number of lead and copper samples under subrule (3) of this rule if it receives written approval from the department. This sampling shall begin during the calendar year immediately following the end of the second consecutive 6-month monitoring period. The department shall review monitoring, treatment, and other relevant information submitted by the water supply under R 325.10710d, and shall notify the supply in writing when it determines the supply is eligible to commence reduced monitoring under this subrule. The department shall review, and where appropriate, revise its determination when the supply submits new monitoring or treatment data, or when other data relevant to the number and frequency of tap sampling becomes available.
(iii) A small or medium size water supply that is in compliance with the lead and copper action levels during 3 consecutive years of monitoring may reduce the frequency of monitoring for lead and copper from annually to once every 3 years. A small or medium size water supply collecting fewer than 5 samples as specified in subrule (3) of this rule, that meets the lead and copper action levels during 3 consecutive years of monitoring may reduce the frequency of sampling to once every 3 years. A water supply that meets the lead action level and maintains the range of values for the water quality control parameters reflecting optimal corrosion control treatment specified by the department under R 325.10604f(3)(f) during 3 consecutive years of monitoring may reduce the frequency of monitoring for lead and copper at the tap from annually to once every 3 years if it receives written approval from the department. Samples collected once every 3 years shall be collected not later than every third calendar year. The department shall review monitoring, treatment, and other relevant information submitted by the supply under R 325.10710d, and shall notify the supply in writing when it determines the supply is eligible to reduce the frequency of monitoring to once every 3 years. The department shall review, and where appropriate, revise its determination when the supply submits new monitoring or treatment data, or when other data relevant to the number and frequency of tap sampling becomes available.
(iv) A water supply that reduces the number and frequency of sampling shall collect these samples from representative sites included in the pool of targeted sampling sites identified in subrule (1) of this rule. A water supply that samples annually or less frequently shall conduct the lead and copper tap sampling during the month of June, July, August, or September unless the department has approved a different sampling period under subparagraph (A) of this paragraph, as follows:
(A) The department, at its discretion, may approve a different period for conducting the lead and copper tap sampling for supplies collecting a reduced number of samples. The period shall be not longer than 4 consecutive months and shall represent a time of normal operation where the highest levels of lead are most likely to occur. For a nontransient noncommunity water supply that does not operate during the months of June through September, and for which the period of normal operation where the highest levels of lead are most likely to occur is not known, the department shall designate a period that represents a time of normal operation for the water supply. This sampling shall begin during the period approved or designated by the department in the calendar year immediately following the end of the second consecutive 6-month monitoring period for supplies initiating annual monitoring and during the 3-year period following the end of the third consecutive calendar year of annual monitoring for supplies initiating triennial monitoring.
(B) Supplies monitoring annually that have been collecting samples during the months of June through September and that received department approval to alter their sample collection period under subparagraph (A) of this paragraph, shall collect their next round of samples during a time period that ends not later than 21 months after the previous round of sampling. Supplies monitoring triennially that have been collecting samples during the months of June through

September, and receive department approval to alter the sampling collection period under subparagraph (A) of this paragraph, shall collect their next round of samples during a time period that ends not later than 45 months after the previous round of sampling. Subsequent rounds of sampling shall be collected annually or triennially, as required by this subrule. Small water supplies with waivers, granted under subrule (7) of this rule, that have been collecting samples during the months of June through September and that received department approval to alter their sample collection period under subparagraph (A) of this paragraph shall collect their next round of samples before the end of the 9-year cycle.

(v) A water supply that demonstrates for 2 consecutive 6-month monitoring periods that the tap water lead level computed under R 325.10604f(1)(c) is less than or equal to 0.005 mg/l and the tap water copper level computed under R 325.10604f(1)(c) is less than or equal to 0.65 mg/l may reduce the number of samples under subrule (3) of this rule and reduce the frequency of sampling to once every 3 calendar years.

(vi) The following provisions apply to supplies subject to reduced monitoring:

(A) A small or medium size water supply subject to reduced monitoring that exceeds the lead or copper action level shall resume sampling under subdivision (c) of this subrule and shall collect the number of samples specified for the standard monitoring under subrule (3) of this rule. The supply shall also conduct water quality parameter monitoring under R 325.10710b(4), (5), or (6), as appropriate, during the monitoring period in which it exceeded the action level. The supply may resume annual monitoring for lead and copper at the tap at the reduced number of sites specified in subrule (3) of this rule after it has completed 2 subsequent consecutive 6-month rounds of monitoring that meet the criteria of paragraph (i) of this subdivision or may resume triennial monitoring for lead and copper at the reduced number of sites after it demonstrates through subsequent rounds of monitoring that it meets the criteria of either paragraph (iii) or (v) of this subdivision.

(B) A water supply subject to the reduced monitoring frequency that fails to meet the lead action level during a 4-month monitoring period or that fails to operate at or above the minimum value or within the range of values for the water quality parameters specified by the department under R 325.10604f(3)(f) for more than 9 days in a 6-month period specified in R 325.10710b(6)shall conduct tap water sampling for lead and copper at the frequency specified in subdivision (c) of this subrule, collect the number of samples specified for standard monitoring under subrule (3) of this rule, and shall resume monitoring for water quality parameters within the distribution system under R 325.10710b(6). This standard tap water sampling shall begin not later than the 6-month period beginning January 1 of the calendar year following the lead action level exceedance or water quality parameter excursion. The supply may resume reduced monitoring for lead and copper at the tap and for water quality parameters within the distribution system under the following conditions:

(1) The supply may resume annual monitoring for lead and copper at the tap at the reduced number of sites specified in subrule (3) of this rule after it has completed 2 subsequent 6-month rounds of monitoring that meet the criteria of paragraph (ii) of this subdivison and the supply has received written approval from the department to resume reduced monitoring on an annual frequency. This sampling shall begin during the calendar year immediately following the end of the second consecutive 6-month monitoring period.

(2) The supply may resume triennial monitoring for lead and copper at the tap at the reduced number of sites after it demonstrates through subsequent rounds of monitoring that it meets the criteria of either paragraph (iii) or (v) of this subdivision and the supply has received written approval from the department to resume triennial monitoring.

(3) The supply may reduce the number of water quality parameter tap water samples required under R 325.10710b(7)(a) and the frequency with which it collects the samples under R 325.10710b(7)(b). The supply may not resume triennial monitoring for water quality parameters at the tap until it demonstrates, under the requirements of R 325.10710b(7)(b), that it has requalified for triennial monitoring.

(vii) A water supply subject to a reduced monitoring frequency under subdivision (d) of this subrule shall notify the department in writing under R 325.10710d(a)(iii) of any upcoming long-term change in treatment or addition of a new source as described in that rule. The department shall review and approve the addition of a new source or long-term change in water treatment before it is implemented by the water supply. The department may require the supply to resume sampling under subdivision (c) of this subrule and collect the number of samples specified for standard monitoring under subrule (3) of this rule or take other appropriate steps such as increased water quality parameter monitoring or reevaluation of its corrosion control treatment given the potentially different water quality considerations.

(5) The results of monitoring conducted in addition to the minimum requirements of this rule shall be considered in calculating the ninetieth percentile lead or copper level.

(6) A sample invalidated under this subrule does not count toward determining lead or copper ninetieth percentile levels under R 325.10604f(1)(c) or toward meeting the minimum monitoring requirements of subrule (3) of this rule. All of the following provisions apply to invalidating samples:

(a) The department may invalidate a lead or copper tap water sample if at least 1 of the following conditions is met:

(i) The laboratory establishes that improper sample analysis caused erroneous results.
(ii) The department determines that the sample was taken from a site that did not meet the site selection criteria of this rule.
(iii) The sample container was damaged in transit.
(iv) There is substantial reason to believe that the sample was subject to tampering.
(b) The supply shall report the results of all samples to the department and all supporting documentation for samples the supply believes should be invalidated.
(c) To invalidate a sample under subdivision (a) of this subrule, the decision and the rationale for the decision shall be documented in writing. The department may not invalidate a sample solely on the grounds that a follow-up sample result is higher or lower than that of the original sample.
(d) The water supply shall collect replacement samples for the samples invalidated under this rule if, after the invalidation of 1 or more samples, the supply has too few samples to meet the minimum requirements of subrule (3) of this rule. The replacement samples shall be taken as soon as possible, but not later than 20 days after the date the department invalidates the sample or by the end of the applicable monitoring period, whichever occurs later. Replacement samples taken after the end of the applicable monitoring period shall not also be used to meet the monitoring requirements of a subsequent monitoring period. The replacement samples shall be taken at the same locations as the invalidated samples or, if that is not possible, at locations other than those already used for sampling during the monitoring period.
(7) A small water supply that meets the criteria of this subrule may apply to the department to reduce the frequency of monitoring for lead and copper under this rule to once every 9 years, that is, a "full waiver", if it meets all of the materials criteria specified in subdivision (a) of this subrule and all of the monitoring criteria specified in subdivision (b) of this subrule. If a small water supply meets the criteria in subdivisions (a) and (b) of this subrule only for lead, or only for copper, the supply may apply to the department for a waiver to reduce the frequency of tap water monitoring to once every 9 years for that contaminant only, that is, a "partial waiver". All of the following apply:
(a) The supply shall demonstrate that its distribution system and service lines and all drinking water system plumbing, including plumbing conveying drinking water within all residences and buildings connected to the system, are free of lead containing materials or copper containing materials, or both, as those terms are defined in this subdivision, as follows:
(i) To qualify for a full waiver, or a waiver of the tap water monitoring requirements for lead, that is, a "lead waiver", the water supply shall provide certification and supporting documentation to the department that the supply is free of all lead containing materials and that the supply complies with both of the provisions in this paragraph. Both of the following apply:
(A) It does not contain plastic pipes that contain lead plasticizers or plastic service lines that contain lead plasticizers.
(B) It is free of lead service lines, lead pipes, lead soldered pipe joints, and leaded brass or bronze alloy fittings and fixtures, unless the fittings and fixtures meet the specifications of standards established under "Prohibition on Use of Lead Pipes, Solder, and Flux: Plumbing Fittings and Fixtures" 42 U.S.C. 300G-6(e), (2006), which is available on the Internet at http://www.law.cornell.edu/uscode/text/42/300g-6.
(ii) To qualify for a full waiver, or a waiver of the tap water monitoring requirements for copper, that is, a "copper waiver", the water supply shall provide certification and supporting documentation to the department that the supply does not contain copper pipes or copper service lines.
(b) The supply shall have completed at least one 6-month round of standard tap water monitoring for lead and copper at sites approved by the department and from the number of sites required by subrule (3) of this rule and demonstrate that the ninetieth percentile levels for all rounds of monitoring conducted since the supply became free of all lead containing or copper containing materials, or both, as appropriate, meet the following criteria:
(i) To qualify for a full waiver or a lead waiver, the supply shall demonstrate that the ninetieth percentile lead level does not exceed 0.005 mg/l.
(ii) To qualify for a full waiver or a copper waiver, the supply shall demonstrate that the ninetieth percentile copper level does not exceed 0.65 mg/l.
(c) The department shall notify the supply of its waiver determination, in writing setting forth the basis of its decision and any condition of the waiver. As a condition of the waiver, the department may require the supply to perform specific activities, for example, limited monitoring, periodic outreach to customers to remind them to avoid installation of materials that might void the waiver, to avoid the risk of lead or copper concentration of concern in tap water. The small supply shall continue monitoring for lead and copper at the tap as required by subdivisions (a) to (d) of this subrule, as appropriate, until it receives written notification from the department that the waiver has been approved.
(d) Monitoring frequencies for supplies with waivers are as follows:

(i) A supply with a full waiver shall conduct tap water monitoring for lead and copper under subrule (4)(d)(iv) of this rule at the reduced number of sampling sites identified in subrule (3) of this rule at least once every 9 years and provide the materials certification specified in subdivision (a) of this subrule for both lead and copper to the department along with the monitoring results. Samples collected every 9 years shall be collected not later than every ninth calendar year.
(ii) A supply with a partial waiver shall conduct tap water monitoring for the waived contaminant under subrule (4)(d)(iv) of this rule at the reduced number of sampling sites specified in subrule (3) of this rule at least once every 9 years and provide the materials certification specified in subdivision (a) of this subrule pertaining to the waived contaminant along with the monitoring results. Samples collected every 9 years for the waived contaminant shall be collected not later than every ninth calendar year. The supply also shall continue to monitor for the non-waived contaminant under requirements of subrule (4)(a) to (d) of this rule, as appropriate.
(iii) A water supply with a full or partial waiver shall notify the department, in writing, under R 325.10710d(a)(iii) of an upcoming long-term change in treatment or addition of a new source, as described in that rule. The department shall review and approve the addition of a new source or long-term change in water treatment before it is implemented by the water supply. The department has the authority to require the water supply to add or modify waiver conditions, for example, require recertification that the system is free of lead containing or copper containing materials, or both, require additional round or rounds of monitoring, if it considers the modifications are necessary to address treatment or source water changes at the water supply.
(iv) If a water supply with a full or partial waiver becomes aware that it is no longer free of lead containing or copper containing materials, as appropriate, for example, as a result of new construction or repairs, the supply shall notify the department, in writing, not later than 60 days after becoming aware of the change.
(e) If the supply continues to satisfy the requirements of subdivision (d) of this subrule, the waiver will be renewed automatically, unless a condition listed in paragraphs (i) to (iii) of this subdivision occurs. A supply whose waiver has been revoked may reapply for a waiver if it again meets the appropriate materials and monitoring criteria of subdivisions (a) and (b) of this subrule. The waiver is revoked if any of the following conditions exist:
(i) A supply with a full waiver or a lead waiver no longer satisfies the materials criteria of subdivision (a)(i) of this subrule or has a ninetieth percentile lead level of more than 0.005 mg/l.
(ii) A supply with a full waiver or a copper waiver no longer satisfies the materials criteria of subdivision (a)(ii) of this subrule or has a ninetieth percentile copper level of more than 0.65 mg/l.
(iii) The department notifies the supply, in writing setting forth the basis of its decision, that the waiver has been revoked.
(f) A supply whose full or partial waiver has been revoked by the department is subject to the corrosion control treatment and lead and copper tap water monitoring requirements, as follows:
(i) If the supply exceeds the lead or copper action level, or both, the supply shall implement corrosion control treatment under the deadlines specified in R 325.10604f(2)(e) and other applicable requirements of this part.
(ii) If the supply meets both the lead and the copper action level, the supply shall monitor for lead and copper at the tap not less frequently than once every 3 years using the reduced number of sample sites specified in subrule (3) of this rule.
(g) Small water supply waivers approved by the department, in writing, before April 11, 2000, shall remain in effect if the supply has demonstrated that it is both free of lead containing and copper containing materials, as required by subdivision (a) of this subrule, and that its ninetieth percentile lead levels and ninetieth percentile copper levels meet the criteria of subdivision (b) of this subrule, and that the supply continues to meet the waiver eligibility criteria of subdivision (e) of this subrule. The first round of tap water monitoring conducted under subdivision (d) of this subrule shall be completed not later than 9 years after the last time the supply has monitored for lead and copper at the tap.
History: 1994 AACS; 1998 AACS; 2002 AACS; 2009 AACS; 2015 MR 20, Eff. Oct. 16, 2015.

R 325.10710b
Source: 2009 AACS.

R 325.10710c
Source: 2009 AACS.

R 325.10710d
Source: 2009 AACS.

R 325.10711
Source: 1997 AACS.

R 325.10712
Source: 1997 AACS.

R 325.10713
Source: 1997 AACS.

R 325.10714
Source: 1997 AACS.

R 325.10715
Source: 1997 AACS.

R 325.10716
Source: 2005 AACS.

R 325.10717
Source: 2005 AACS.

R 325.10717a
Source: 1997 AACS.

R 325.10717b
Source: 2009 AACS.

R 325.10717c
Source: 2009 AACS.

R 325.10718
Source: 1997 AACS.

R 325.10719
Source: 2003 AACS.

R 325.10719a
Source: 2005 AACS.

R 325.10719b
Source: 2005 AACS.

R 325.10719c
Source: 2005 AACS.

R 325.10719d
Source: 2005 AACS.

R 325.10719e Disinfectant residuals, disinfection byproducts, and disinfection byproduct precursors; monitoring requirements.
Rule 719e. (1) This rule applies as set forth in R 325.10610b. All of the following provisions are general monitoring requirements:
(a) Supplies shall take all samples during normal operating conditions.
(b) Supplies may consider multiple wells drawing water from a single aquifer as 1 treatment plant for determining the minimum number of TTHM and HAA5 samples required, with department approval. This approval will be granted in writing if the supply can demonstrate that the finished water quality characteristic of all entry points to the distribution system drawing from the identified aquifer, whether served by multiple wells or a single well, are similar and are expected to react alike in terms of the formation of disinfection byproducts. To demonstrate this, the supply shall arrange for a study to be prepared by an individual or firm considered qualified to perform this work, such as a hydrogeologist, geologist, or engineer. All of the following provisions apply to the study:
(i) The study shall consider well construction and geology, including all of the following:

(A) Well locations marked on a topographical map.
(B) Well depths.
(C) Well logs showing geological strata, identifying water production zones, screened or slotted areas, and grouting of the annular space.
(D) Static water levels.
(E) Aquifer studies and maps.
(F) Treatment applied.
(ii) The study shall consider water characteristics and chemistry of each well including all of the following:
(A) Field pH.
(B) Field temperatures.
(C) Specific conductivity.
(D) Total organic carbon.
(E) Analyses of common ions with a calculated cation/ion balance, such as calcium, magnesium, iron, manganese, sodium sulfate, alkalinity, and chloride.
(iii) The department may require disinfection byproducts monitoring at various entry points to the distribution system to determine if the study conclusions are correct.
(iv) Results of disinfection byproducts monitoring may be used instead of the study if all entry points to the distribution system drawing from the identified aquifer show that the levels are below the MCLs.
(c) Failure to monitor in accordance with the monitoring plan required under subrule (5) of this rule is a monitoring violation.
(d) Failure to monitor will be treated as a violation for the entire period covered by the annual average where compliance is based on a running annual average of monthly or quarterly samples or averages and the supply's failure to monitor makes it impossible to determine compliance with MCLs or MRDLs.
(e) Supplies shall use only data collected under this rule to qualify for reduced monitoring.
(2) All of the following provisions are monitoring requirements for disinfection byproducts:
(a) All of the following provisions are TTHM and HAA5 monitoring requirements:
(i) Supplies shall conduct routine monitoring at the frequency indicated in R 325.10719h.
(ii) Supplies may reduce monitoring, except as otherwise provided, under R 325.10719j.
(iii) To qualify for reduced monitoring for TTHM and HAA5 under R 325.10719j, subpart H supplies not subject to disinfection byproduct precursor monitoring under subrule (4) of this rule shall take monthly TOC samples every 30 days at a location before treatment. In addition to meeting other criteria for reduced monitoring in R 325.10719j, the source water TOC running annual average shall be less than or equal to 4.0 mg/L, based on the most recent 4 quarters of monitoring, on a continuing basis at each treatment plant to reduce or remain on reduced monitoring for TTHM and HAA5. Once qualified for reduced monitoring for TTHM and HAA5 under R 325.10719j, a supply may reduce source water TOC monitoring to quarterly TOC samples taken every 90 days at a location before treatment.
(b) Community and nontransient noncommunity water supplies adding chlorine dioxide shall conduct monitoring for chlorite under all of the following provisions:
(i) All of the following provisions are routine monitoring requirements:
(A) Each day, supplies shall take samples at the entrance to the distribution system. For any daily sample that exceeds the chlorite MCL, the supply shall take additional samples in the distribution system the following day at the locations required by paragraph (ii) of this subdivision, in addition to the sample required at the entrance to the distribution system.
(B) Each month, supplies shall take a 3-sample set in the distribution system. The supply shall take 1 sample at each of the following locations:
(1) Near the first customer.
(2) At a location representative of average residence time.
(3) At a location reflecting maximum residence in the distribution system.
Any additional routine sampling shall be conducted in the same manner, as 3-sample sets, at the specified locations. The supply may use the results of additional monitoring conducted under paragraph (ii) of this subdivision to meet the requirement for monitoring in this paragraph.
(ii) On each day following a routine sample monitoring result that exceeds the chlorite MCL at the entrance to the distribution system, the supply shall take 3 chlorite distribution system samples at each of the following locations:
(A) As close to the first customer as possible.
(B) In a location representative of average residence time.
(C) As close to the end of the distribution system as possible, reflecting maximum residence time in the distribution system.

(iii) Chlorite monitoring at the entrance to the distribution system required by paragraph (i)(A) of this subdivision may not be reduced. Chlorite monitoring in the distribution system required by paragraph (i)(B) of this subdivision may be reduced to 1 3-sample set per quarter after 1 year of monitoring where no individual chlorite sample taken in the distribution system under paragraph (i)(B) of this subdivision has exceeded the chlorite MCL and the supply has not been required to conduct monitoring under paragraph (ii) of this subdivision. The supply may remain on the reduced monitoring schedule until either any of the 3 individual chlorite samples taken quarterly in the distribution system under paragraph (i)(B) of this subdivision exceeds the chlorite MCL or the supply is required to conduct monitoring under paragraph (ii) of this subdivision, at which time the supply shall revert to routine monitoring.
(c) Supplies using ozone shall monitor for bromate as follows:
(i) Supplies using ozone shall monitor for bromate by taking 1 sample per month at the entrance to the distribution system for each treatment plant in the supply using ozone.
(ii) A supply required to monitor for bromate may reduce monitoring from monthly to quarterly, if the supply's running annual average bromate concentration is less than or equal to 0.0025 mg/L based on monthly bromate measurements under paragraph (i) of this subdivision for the most recent 4 quarters. The supply may remain on reduced monitoring as long as the running annual average of quarterly bromate sample are less than or equal to 0.0025 mg/L. If the running annual average bromate concentration is greater than 0.0025 mg/L, the supply shall resume routine monitoring required by paragraph (i) of this subdivision.
(3) Both of the following provisions are monitoring requirements for disinfectant residuals:
(a) Community and nontransient noncommunity water supplies adding chlorine or chloramines shall measure the residual disinfectant level in the distribution system at the same point in the distribution system and at the same time as total coliforms are sampled, as specified in R 325.10704 to R 325.10709 until March 31, 2016 and as specified in R 325.10704d to R 325.10704h beginning April 1, 2016. Subpart H supplies may use the results of residual disinfectant concentration sampling conducted under filtration sampling requirements of R 325.10720(4) instead of taking separate samples. Monitoring shall not be reduced.
(b) All of the following provisions are chlorine dioxide monitoring requirements:
(i) Community, nontransient noncommunity, and transient noncommunity water supplies that use chlorine dioxide shall monitor for chlorine dioxide by taking daily samples at the entrance to the distribution system. For any daily sample that exceeds the MRDL, the supply shall take samples in the distribution system the following day at the locations required by paragraph (ii) of this subdivision, in addition to the sample required at the entrance to the distribution system.
(ii) On each day following a routine sample monitoring result that exceeds the MRDL, the supply shall take 3 chlorine dioxide distribution system samples. If chlorine dioxide or chloramines are used to maintain a disinfectant residual in the distribution system, or if chlorine is used to maintain a disinfectant residual in the distribution system and there are no disinfection addition points after the entrance to the distribution system, that is, no booster chlorination, the supply shall take 3 samples as close to the first customer as possible, at intervals of at least 6 hours. If chlorine is used to maintain a disinfectant residual in the distribution system and there are 1 or more disinfection addition points after the entrance to the distribution system, that is, booster chlorination, the supply shall take 1 sample at each of the following locations:
(A) As close to the first customer as possible.
(B) In a location representative of average residence time.
(C) As close to the end of the distribution system as possible, reflecting maximum residence time in the distribution system.
(iii) Chlorine dioxide monitoring may not be reduced.
(4) Monitoring requirements for disinfection byproduct precursors (DBPP) are as follows:
(a) Subpart H supplies using conventional filtration shall monitor each treatment plant for TOC not later than the point of combined filter effluent turbidity monitoring and representative of the treated water. Supplies shall also monitor for TOC in the source water before any treatment at the same time as monitoring for TOC in the treated water. These samples (source water and treated water) are referred to as "paired samples." At the same time as the source water sample is taken, supplies shall monitor for alkalinity in the source water before any treatment. Supplies shall take 1 paired sample and 1 source water alkalinity sample per month per plant at a time representative of normal operating conditions and influent water quality.
(b) Subpart H supplies with an average treated water TOC of less than 2.0 mg/l for 2 consecutive years, or less than 1.0 mg/l for 1 year, may reduce monitoring for both TOC and alkalinity to 1 paired sample and 1 source water alkalinity sample per plant per quarter. The supply shall revert to routine monitoring in the month following the quarter when the annual average treated water TOC is greater than or equal to 2.0 mg/l.
(5) Supplies subject to this rule shall develop and implement a monitoring plan. The supply shall maintain the plan and make it available for inspection by the department and the general public not more than 30 days after the supply becomes subject to this rule, as indicated in R 325.10610b. Subpart H supplies serving more than 3,300 people shall submit a copy

of the monitoring plan to the department not later than the date of the first report required under R 325.10719f. At a minimum, the plan shall include all of the following elements:
(a) Specific locations and schedules for collecting samples for parameters included in R 325.10610b, R 325.10610c, or this rule.
(b) The method the supply will use to calculate compliance with MCLs, MRDLs, and treatment techniques.
(c) If approved for monitoring as a consecutive supply, or if providing water to a consecutive supply, under of R 325.10733, the sampling plan shall reflect the entire distribution system.
History: 2003 AACS; 2009 AACS; 2015 MR 20, Eff. Oct. 16, 2015.

R 325.10719f Disinfectant residuals, disinfection byproducts, and disinfection byproduct precursors; reporting and recordkeeping.

Rule 719f. (1) Supplies required to monitor under R 325.10719e shall report to the department under this rule and R 325.10719n. Supplies required to sample quarterly or more frequently shall report to the department within 10 days after the end of each quarter in which samples were collected, notwithstanding the provisions of R 325.10734. Supplies required to sample less frequently than quarterly shall report to the department within 10 days after the end of each monitoring period in which samples were collected.
(2) Supplies shall report disinfection byproducts information specified in the following table:

If supply monitors under R 325.10719e(2) for...	Supply shall report...
(a) Chlorite	(i) The number of entry point samples taken each month for the last 3 months. (ii) The location, date, and result of each sample (both entry point and distribution system) taken during the last quarter. (iii) For each month in the reporting period, the average of all samples taken in each 3-samples set taken in the distribution system. (iv) Whether, based on R 325.10610b(2)(c), the MCL was violated, in which month, and how many times it was violated each month.
(b) Bromate	(i) The number of samples taken during the last quarter. (ii) The location, date, and result of each sample taken during the last quarter. (iii) The average of the monthly averages of all samples taken in the last year. (iv) Whether, based on R 325.10610b(2)(b), the MCL was violated.

(3) Supplies shall report disinfectant information specified in the following table:

If supply monitors under R 325.10719e(3) for...	supply shall report...

(a) Chlorine or chloramines	(i) The number of samples taken during each month of the last quarter. (ii) The monthly average of all samples taken in each month for the last 12 months. (iii) The average of all monthly averages for the last 12 months. (iv) Whether, based on R 325.10610b(3)(a), the MRDL was violated.
(b) Chlorine dioxide	(i) The dates, results, and locations of samples taken during the last quarter. (ii) Whether, based on R 325.10610(3)(b), the MRDL was violated. (iii) Whether the MRDL was exceeded in any 2 consecutive daily samples and whether the resulting violation was a tier 1 or tier 2 violation.

(4) Supplies shall report disinfection byproduct precursors and enhanced coagulation or enhanced softening information specified in the following table:

If supply monitors monthly or quarterly for TOC under R 325.10719e(4)...	Supply shall report...
(a) And is required to meet the enhanced coagulation or enhanced softening requirements in R 325.10610c(2)(b) or (c)	(i) The number of paired samples taken during the last quarter. (ii) The location, date, and result of each paired sample and associated alkalinity taken during the last quarter. (iii) For each month in the reporting period that paired samples were taken, the average of the percent reduction of TOC for each paired sample and the required TOC percent removal. (iv) Calculations for determining compliance with the TOC percent removal requirements, as provided in R 325.10610c(3)(a). (v) Whether the system is in compliance with the enhanced coagulation or enhanced softening percent removal requirements in R 325.10610c(2) for the last 4 quarters.

(b) And meets 1 or more of the alternative compliance criteria in R 325.10610c(1)(b) or (c)	(i) The number of paired samples taken during the last quarter. (ii) The location, date, and result of each paired sample and associated alkalinity taken during the last quarter. (iii) The alternative compliance criterion that the system is using. (iv) The running annual average based on monthly averages, or quarterly samples, of source water TOC for systems meeting a criterion in R 325.10610c(1)(b)(i) or (iii) or of treated water TOC for systems meeting the criterion in R 325.10610c(1)(b)(ii). (v) The running annual average based on monthly averages, or quarterly samples, of source water SUVA for systems meeting the criterion in R 325.10610c(1)(b)(v) or of treated water SUVA for systems meeting the criterion in R 325.10610c(1)(b)(vi). (vi) the running annual average of source water alkalinity for systems meeting the criterion in R 325.10610c(1)(b)(iii) and of treated water alkalinity for systems meeting the criterion in R 325.10610c(1)(c)(i). (vii) The running annual average for both TTHM and HAA5 for systems meeting the criterion in R 325.10610c(1)(b)(iii). (viii) The running annual average of the amount of magnesium hardness removal, as calcium carbonate, in mg/l, for systems meeting the criterion in R 325.10610c(1)(c)(ii). (ix) Whether the system is in compliance with the particular alternative compliance criterion in R 325.10610c(1)(b) or (c).

History: 2003 AACS; 2015 MR 20, Eff. Oct. 16, 2015.

R 325.10719g Rescinded.
History: 2009 AACS; 2015 MR 20, Eff. Oct. 16, 2015.

R 325.10719h Disinfection byproducts; routine monitoring.

Rule 719h. (1) A community or nontransient noncommunity water supply that is subject to disinfection byproducts requirements of R 325.10610d shall monitor at the location or locations and dates identified in the monitoring plan in R 325.10719e(5), updated as required by R 325.10719i. These community and noncommunity water supplies are also considered "water supplies" or "supplies" in this rule and R 325.10719i to R 325.10719n.
(2) The supply shall monitor at least the number of locations identified in the following table:

Source Water Type	Population size category	Monitoring Frequency [1]	Distribution system monitoring locations total per monitoring period [2]
Subpart H	less than 500	per year	2
Subpart H	500 to 3,300	per quarter	2
Subpart H	3,301 to 9,999	per quarter	2
Subpart H	10,000 to 49,999	per quarter	4
Subpart H	50,000 to 249,999	per quarter	8
Subpart H	250,000 to 999,999	per quarter	12
Subpart H	1,000,000 to 4,999,999	per quarter	16
Subpart H	greater than or equal to 5,000,000	per quarter	20
Groundwater	less than 500	per year	2
Groundwater	500 to 9,999	per year	2
Groundwater	10,000 to 99,999	per quarter	4
Groundwater	100,000 to 499,999	per quarter	6
Groundwater	greater than or equal to 500,000	per quarter	8

[1] All supplies shall monitor during month of highest DBP concentrations.
[2] Supplies on quarterly monitoring shall take dual sample sets every 90 days at each monitoring location, except for subpart H supplies serving 500 to 3,300. Groundwater supplies serving 500-9,999 on annual monitoring shall take dual sample sets at each monitoring location. All other supplies on annual monitoring and subpart H supplies serving 500 to 3,300 shall take individual TTHM and HAA5 samples (instead of a dual sample set) at the locations with the highest TTHM and HAA5 concentrations, respectively. For supplies serving fewer than 500 people, only 1 location with a dual sample set per monitoring period is needed if the highest TTHM and HAA5 concentrations occur at the same location and month.
(3) An undisinfected supply that begins using a disinfectant other than UV light shall consult with the department to identify compliance monitoring locations for TTHM and HAA5 under R 325.10610d and R 325.10719h to R 325.10719n. The supply shall then develop a monitoring plan under R 325.10719i that includes those monitoring locations.
History: 2009 AACS; 2015 MR 20, Eff. Oct. 16, 2015.

R 325.10719i Disinfection byproducts; monitoring plan.
Rule 719i. (1) Both of the following provisions apply to developing the monitoring plan for community or nontransient noncommunity water supplies that are subject to disinfection byproducts requirements of R 325.10610d:
(a) The supply shall develop and implement a monitoring plan to be kept on file for department and public review. The monitoring plan shall contain all of the following elements and be complete not later than the date the supply conducts the initial monitoring under TTHM and HAA5 provisions of R 325.10610d and R 325.10719h to R 325.10719n:
(i) Monitoring locations.
(ii) Monitoring dates.
(iii) Compliance calculation procedures.
(iv) Monitoring plans for the other supplies in the combined distribution system if the department has reduced monitoring requirements under R 325.10733.
(b) A supply shall identify monitoring locations by alternating selection of locations representing high TTHM levels and high HAA5 levels until the required number of monitoring locations have been identified for compliance with R 325.10719h to R 325.10719j. The supply shall also provide the rationale for identifying the locations as having high levels of TTHM or HAA5.

(2) A subpart H supply serving greater than 3,300 people shall submit a copy of the monitoring plan to the department before the date the supply conducts the initial monitoring under TTHM and HAA5 provisions of R 325.10610d and R 325.10719h to R 325.10719n.
(3) The supply may revise the monitoring plan to reflect changes in treatment, distribution system operations and layout, including new service areas, or other factors that may affect TTHM or HAA5 formation, or for department approved reasons, after consultation with the department regarding the need for changes and the appropriateness of changes. If the supply changes monitoring locations, the supply shall replace existing compliance monitoring locations with the lowest LRAA with new locations that reflect the current distribution system locations with expected high TTHM or HAA5 levels. The department may also require modifications in the monitoring plan. A subpart H supply serving greater than 3,300 people shall submit a copy of the modified monitoring plan to the department before the date the supply is required to comply with the revised monitoring plan.
History: 2009 AACS; 2015 MR 20, Eff. Oct. 16, 2015.

R 325.10719j
Source: 2009 AACS.

R 325.10719k
Source: 2009 AACS.

R 325.10719l
Source: 2009 AACS.

R 325.10719m Rescinded.
History: 2009 AACS; 2015 MR 20, Eff. Oct. 16, 2015.

R 325.10719n
Source: 2009 AACS.

R 325.10720 Filtration and disinfection; filtration sampling requirements.
Rule 720. (1) Subpart H supplies shall monitor under this rule to determine compliance with R 325.10611a and R 325.10611b.
(2) All of the following provisions are turbidity monitoring requirements:
(a) Supplies shall collect samples and perform measurements for turbidity at locations representative of filtered water at regular intervals at least once every 4 hours while the treatment plant is in operation.
(b) A public water supply may substitute continuous turbidity monitoring for grab sample monitoring if the continuous measurement is validated for accuracy on a regular basis using a protocol approved by the department. Readings taken from a continuous recording turbidimeter at regular intervals at least once every 4 hours may be used to determine compliance with the treatment technique under R 325.10611b. The turbidimeter shall be calibrated using the procedure specified by the manufacturer.
(c) Supplies using conventional or direct filtration shall conduct continuous monitoring of turbidity for each individual filter and shall calibrate turbidimeters using the procedure specified by the manufacturer. Supplies shall record the results of individual filter monitoring every 15 minutes.
(d) If there is a failure in the continuous turbidity monitoring equipment described in subdivision (c) of this subrule, then the supply shall conduct grab sampling every 4 hours instead of continuous monitoring, but for not more than 5 working days after the failure of the equipment for supplies serving 10,000 or more people or 14 days for supplies serving fewer than 10,000 people before a violation is incurred.
(e) If the supply serves fewer than 10,000 people and consists of only 2 or fewer filters, then the supply may conduct continuous monitoring of combined filter effluent turbidity instead of individual filter effluent turbidity monitoring. Continuous monitoring shall meet the same requirements in subdivisions (c) and (d) of this subrule.
(3) All of the following provisions are disinfectant residual monitoring requirements at the entry points to the distribution system:
(a) Supplies serving more than 3,300 people shall monitor for residual disinfectant concentration at an entry point to the distribution system on a continuous basis and record the lowest value each day. If there is a failure in the continuous monitoring equipment, the supply may take grab samples every 4 hours instead of continuous monitoring, but for no more than 5 working days following the failure of the equipment.

(b) Supplies serving fewer than 3,301 people shall monitor for residual disinfectant concentration at an entry point to the distribution system at a frequency set forth in table 1 of this rule, and, if more than 1 sample is required per day, supplies shall collect samples at times evenly spaced throughout the operational day.

Table 1 Residual disinfectant concentration sampling frequencies

Supply size by population	Samples per day
500 or fewer people	1
501 to 1,000 people	2
1,001 to 2,500 people	3
2,501 to 3,300 people	4

(c) Under R 325.10611a, supplies shall maintain a residual disinfectant concentration entering the distribution system of not less than 0.2 milligrams per liter. If the residual disinfectant concentration drops below this level at any time, then the supply shall notify the department as soon as possible, but not later than the end of the next business day. In addition, the supply shall notify the department by the end of the next business day whether or not the residual disinfectant concentration was restored to not less than 0.2 milligrams per liter within 4 hours.
(4) The residual disinfectant concentration shall be measured, at least, at the same points in the distribution system and at the same time as total coliforms are sampled, as specified in R 325.10704 to R 325.10709 until March 31, 2016 and as specified in R 325.10704d to R 325.10704h beginning April 1, 2016. The department may allow a public water supply which uses both a surface water source or a ground water source under direct influence of surface water, and a ground water source, to take disinfectant residual samples at points other than the total coliform sampling points if the department determines that those points are more representative of treated (disinfected) water quality within the distribution system. Heterotrophic bacteria, measured as heterotrophic plate count (HPC) as adopted by reference in R 325.10605, may be measured instead of residual disinfectant concentration.
History: 1979 AC; 1991 AACS; 1993 AACS; 2003 AACS; 2005 AACS; 2009 AACS; 2015 MR 20, Eff. Oct. 16, 2015.

R 325.10720a
Source: 2005 AACS.

R 325.10720b
Source: 2009 AACS.

R 325.10720c
Source: 2009 AACS.

R 325.10720d Enhanced treatment for Cryptosporidium; developing disinfection profile and benchmark.
Rule 720d. (1) Subpart H supplies required to develop disinfection profiles under R 325.10720c shall follow the requirements of this rule. These Subpart H supplies are also considered "supplies" in this rule. Supplies shall monitor under subrule (2) of this rule to determine the total log inactivation for Giardia lamblia and viruses. Supplies shall determine log inactivation for Giardia lamblia through the entire plant, based on the protocol in R 325.10722(3)(b). Supplies shall determine log inactivation for viruses through the entire treatment plant, based on the protocol in R 325.10722(3)(c).
(2) Subpart H supplies with a single point of disinfectant application before the entrance to the distribution system shall conduct the monitoring in R 325.10722(3)(a). Supplies with more than 1 point of disinfectant application shall conduct the monitoring in R 325.10722(3)(a) for each disinfection segment. Subpart H supplies shall monitor the parameters necessary to determine the total inactivation ratio.
(3) Instead of conducting new monitoring under subrule (2) of this rule, Subpart H supplies may elect to meet the requirements of either of the following:
(a) Supplies that have at least 1 year of existing data that are substantially equivalent to data collected under R 325.10722(3)(a) to meet the requirements of subule (2) of this rule may use these data to develop disinfection profiles as specified in this rule if the supply has neither made a significant change to its treatment practice nor changed sources since the data were collected. Supplies may develop disinfection profiles using up to 3 years of existing data.
(b) Supplies may use a disinfection profile or profiles developed under R 325.10722 instead of developing a new profile if the supply has neither made a significant change to its treatment practice nor changed sources since the profile was

developed. Supplies that have not developed a virus profile under R 325.10722 shall develop a virus profile using the same monitoring data on which the Giardia lamblia profile is based.
(4) Subpart H supplies shall calculate the total inactivation ratio for Giardia lamblia using the protocol in R 325.10722(3)(b). Supplies shall calculate the log of inactivation for viruses using the protocol in R 325.10722(3)(c).
(5) Subpart H supplies shall use the procedures in R 325.10722(4)(c) to calculate a disinfection benchmark.
History: 2009 AACS; 2015 MR 20, Eff. Oct. 16, 2015.

R 325.10720e
Source: 2009 AACS.

R 325.10721
Source: 2003 AACS.

R 325.10722 Filtration and disinfection; disinfection profiling and benchmarking.
Rule 722. (1) A subpart H supply making a significant change to its disinfection practice, as described in subrule (4)(a)(i) to (iv) of this rule shall consult with the department before making the change. An approved significant change in disinfection practices shall not jeopardize current levels of disinfection.
(2) A subpart H community or nontransient noncommunity supply that develops a disinfection profile under R 325.10720c of weekly log inactivations over 52 weeks shall report to the department under R 325.10720a(5).
(3) All of the following provisions apply to disinfection profiling:
(a) To determine the total log inactivation for Giardia lamblia and viruses, supplies shall monitor at least weekly for a period of 12 consecutive months. If supplies monitor more frequently, the monitoring frequency shall be evenly spaced. Supplies that operate for fewer than 12 months per year shall monitor weekly during the period of operation. Supplies shall monitor all of the following parameters:
(i) If a disinfectant other than UV is used, the temperature of the disinfected water shall be measured at each residual disinfectant concentration sampling point during peak hourly flow or at an alternative location approved by the department.
(ii) If chlorine is used, the pH of the disinfected water shall be measured at each chlorine residual disinfect disinfectant concentration sampling point during peak hourly flow or at an alternative location approved by the department.
(iii) Disinfectant contact time or times ("T") shall be determined during peak hourly flow.
(iv) Residual disinfectant concentration or concentrations ("C") of the water before or at the first customer and before each additional point of disinfectant application shall be measured during peak hourly flow.
(b) A supply shall determine log inactivation for Giardia lamblia through the entire plant, based on CT99.9 values in Tables 1.1 to 1.6, 2.1 and 3.1 of 40 CFR §141.74(b)(3)(v), as applicable, as adopted by reference in R 325.10112. A supply shall calculate the total logs of inactivation for Giardia lamblia as follows:
(i) A supply using only 1 point of disinfectant application shall determine the total inactivation ratio for the disinfection segment based on either of the following methods:
(A) Determine 1 inactivation ratio (CTcalc/CT99.9) before or at the first customer during peak hourly flow.
(B) Determine successive CTcalc/CT99.9 values, representing sequential inactivation ratios, between the point of disinfectant application and a point before or at the first customer during peak hourly flow. The supply shall calculate the total inactivation ratio by determining (CTcalc/CT99.9) for each sequence and then adding the (CTcalc/CT99.9) values together to determine $\sum$ (CTcalc/CT99.9).
(ii) A supply using more than 1 point of disinfectant application before the first customer shall determine the (CTcalc/CT99.9) value of each disinfection segment immediately before the next point of disinfectant application, or for the final segment, before or at the first customer, during peak hourly flow. The (CTcalc/CT99.9) value of each segment and $\sum$ (CTcalc/CT99.9) shall be calculated using the method specified in paragraph (i)(B) of this subdivision.
(iii) The supply shall determine the total logs of inactivation by multiplying the value calculated in paragraph (i) or (ii) of this subdivision by 3.0.
(c) A supply that uses chloramines, ozone, or chlorine dioxide for primary disinfection, and a supply subject to R 325.10720d, shall calculate the logs of inactivation for viruses through the entire treatment plant based on CT99.99 values in the tables in Appendix B of the LT1ESWTR Disinfection Profiling and Benchmarking Technical Guidance Manual, as adopted by reference in R 325.10112, as applicable, and develop a disinfection profile for viruses. A supply shall calculate the total log of inactivation for viruses as follows:
(i) A supply using only 1 point of disinfection application shall determine the total inactivation ratio for the disinfection segment based on either of the following methods:
(A) Determine 1 inactivation ratio (CTcalc/CT99.99) before or at the first customer during peak hourly flow.

(B) Determine successive CTcalc/CT99.99 values, representing sequential inactivation ratios, between the point of disinfectant application and a point before or at the first customer during peak hourly flow. The supply shall calculate the total inactivation ratio by determining (CTcalc/CT99.99) for each sequence and then adding the (CTcalc/CT99.99) values together to determine ∑ (CTcalc/CT99.99).
(ii) A supply using more than 1 point of disinfectant application before the first customer shall determine the (CTcalc/CT99.99) value of each disinfection segment immediately before the next point of disinfectant application, or for the final segment, before or at the first customer, during peak hourly flow. The (CTcalc/CT99.99) value of each segment and ∑ (CTcalc/CT99.99) shall be calculated using the method specified in paragraph (i)(B) of this subdivision.
(iii) The supply shall determine the total logs of inactivation by multiplying the value calculated in paragraph (i) or (ii) of this subdivision by 4.0.
(d) The disinfection profile of the 52 measurements of log inactivations shall be represented in a graphic form, such as a spreadsheet and shall be retained and be available for review by the department as part of a sanitary survey. The data shall be used to create the disinfection benchmark under subrule (4) of this rule.
(4) All of the following provisions apply to disinfection benchmarking:
(a) Significant changes to disinfection practice include all of the following:
(i) Changes to the point of disinfection.
(ii) Changes to the disinfectant or disinfectants used in the treatment plant.
(iii) Changes to the disinfection process.
(iv) Any other modification identified by the department as a significant change to disinfection practices.
(b) Prior to changing the disinfection practice, the supply shall notify the department and shall include in this notice the following information:
(i) A description of the proposed change in disinfection practice.
(ii) A completed disinfection profile and disinfection benchmark for Giardia lamblia and viruses as described in R 325.10720d.
(iii) An analysis of how the proposed change will affect the current level of disinfection.
(iv) Any additional information requested by the department to demonstrate the results or benefits, or both, of the change to the disinfection practice.
(c) Supplies shall use the following procedures to calculate a disinfection benchmark:
(i) For each year of profiling data collected and calculated under subrule (3)(a) to (c) of this rule and R 325.10720d(3), supplies shall determine the lowest mean monthly level of both Giardia lamblia and virus inactivation. Supplies shall determine the mean Giardia lamblia and virus inactivation for each calendar month for each year of profiling data by dividing the sum of daily or weekly Giardia lamblia and virus log inactivation by the number of values calculated for that month.
(ii) The disinfection benchmark is the lowest monthly mean value, for supplies with 1 year of profiling data, or the mean of the lowest monthly mean values, for supplies with more than 1 year of profiling data, of Giardia lamblia and virus log inactivation in each year of profiling data.
History: 1979 AC; 2005 AACS; 2009 AACS; 2015 MR 20, Eff. Oct. 16, 2015.

R 325.10724
Source: 1997 AACS.

R 325.10725
Source: 2005 AACS.

R 325.10726
Source: 2005 AACS.

R 325.10728
Source: 2005 AACS.

R 325.10729
Source: 2005 AACS.

R 325.10730
Source: 2009 AACS.

R 325.10731

Source: 2009 AACS.

R 325.10732
Source: 1979 AC.

R 325.10733
Source: 1979 AC.

R 325.10734
Source: 2002 AACS.

R 325.10735
Source: 2009 AACS.

R 325.10736
Source: 2002 AACS.

R 325.10737
Source: 1997 AACS.

R 325.10738
Source: 2002 AACS.

R 325.10739
Source: 2009 AACS.

R 325.10739 Groundwater supply rules; groundwater source microbial monitoring and analytical methods.
Rule 739. (1) All of the following provisions apply to triggered source water monitoring in a groundwater supply that is subject to R 325.10612:
(a) A groundwater supply shall conduct triggered source water monitoring if both of the following conditions exist:
(i) The groundwater supply does not provide at least 4-log treatment of viruses (using inactivation, removal, or a department approved combination of 4-log virus inactivation and removal) before or at the first customer for each groundwater source.
(ii) The groundwater supply is notified that either of the following conditions exists:
(A) A sample collected under R 325.10705 to R 325.10706 is total coliform positive and the sample is not invalidated under R 325.10707a until March 31, 2016.
(B) A sample collected under R 325.10704d to R 325.10704g is total coliform-positive and the sample is not invalidated under R 325.10704c(3) beginning April 1, 2016.
(b) A groundwater supply shall collect, within 24 hours of notification of the total coliform positive sample, at least 1 groundwater source sample from each groundwater source in use at the time the total coliform positive sample was collected under R 325.10705 to R 325.10706 until March 31, 2016, or collected under R 325.10704d to R 325.10704g beginning April 1, 2016, except as provided in paragraph (ii) of this subdivision. The sample shall be analyzed for the presence of E. coli, or if approved by the department, for the presence of enterococci or coliphage. All of the following apply to groundwater source sample requirements:
(i) The department may extend the 24-hour time limit on a case-by-case basis if the groundwater supply cannot collect the groundwater source water sample within 24 hours due to circumstances beyond its control. In the case of an extension, the department shall specify how much time the groundwater supply has to collect the sample.
(ii) If approved by the department, groundwater supplies with more than 1 groundwater source may meet the requirements of this subdivision by sampling a representative groundwater source or sources. If directed by the department, groundwater supplies shall submit for department approval a triggered source water monitoring plan that identifies 1 or more groundwater sources that are representative of each monitoring site in the groundwater supply's sample siting plan under R 325.10705 to R 325.10706, until March 31, 2016, or under R 325.10704c beginning April 1, 2016, and that the groundwater supply intends to use for representative sampling under this paragraph.
(iii) Until March 31, 2016, a groundwater supply serving 1,000 or fewer people may use a repeat sample collected from a groundwater source to meet both the requirements of R 325.10707 and to satisfy the monitoring requirements of this subdivision for that groundwater source. If the repeat sample collected from the groundwater source is E. coli positive, the groundwater supply shall comply with subdivision (c) of this subrule.

(c) If the department does not require corrective action under R 325.10612a(1)(b) for a fecal indicator positive source water sample collected under subdivision (b) of this subrule that is not invalidated under R 325.10739(3), the groundwater supply shall collect 5 additional source water samples from the same source within 24 hours of being notified of the fecal indicator positive sample and have it analyzed for the presence of E. coli, or with department approval, for the presence of enterococci or coliphage.
(d) Both of the following provisions apply to consecutive supplies and wholesale supplies:
(i) In addition to the other requirements of this subrule, a consecutive groundwater supply that has a total coliform positive sample collected under R 325.10705 to R 325.10706 until March 31, 2016, or under R 325.10704d to R 325.10704g beginning April 1, 2016, shall notify the wholesale supply or supplies within 24 hours of being notified of the total coliform positive sample.
(ii) In addition to the other requirements of this subrule, a wholesale groundwater supply shall comply with both of the following:
(A) A wholesale groundwater supply that receives notice from a consecutive supply it serves that a sample collected under R 325.10705 to R 325.10706 until March 31, 2016, or under R 325.10704d to R 325.10704g beginning April 1, 2016, is total coliform positive shall, within 24 hours of being notified, collect a sample from its groundwater source or sources under subdivision (b) of this subrule and have it analyzed for the presence of E. coli, or with department approval, for the presence of enterococci or coliphage.
(B) If the sample collected under subparagraph (A) of this paragraph is fecal indicator positive, the wholesale groundwater supply shall notify all consecutive supplies served by that groundwater source of the fecal indicator source water positive within 24 hours of being notified of the groundwater source sample monitoring result and shall meet the requirements of subdivision (c) of this subrule.
(e) Exceptions to the triggered source water monitoring requirements are either of the following. A groundwater supply is not required to comply with the source water monitoring requirements of subrule (1) of this rule if either of the following conditions exists:
(i) The department determines, and documents in writing, that the total coliform positive sample collected under R 325.10705 to R 325.10706 until March 31, 2016, or under R 325.10704d to R 325.10704g beginning April 1, 2016, is caused by a distribution system deficiency.
(ii) The total coliform positive sample collected under R 325.10705 to R 325.10706 until March 31, 2016, or under R 325.10704d to R 325.10704g beginning April 1, 2016, is collected at a location that meets department criteria for distribution system conditions that will cause total coliform positive samples.
(2) All of the following provisions apply to assessment source water monitoring. If directed by the department, groundwater supplies shall conduct assessment source water monitoring that meets department determined requirements for that monitoring. A groundwater supply conducting assessment source water monitoring may use a triggered source water sample collected under subrule (1)(b) of this rule to meet the requirements of this subrule. Department determined assessment source water monitoring requirements may include any of the following:
(a) Collection of a total of 12 groundwater source samples that represent each month the groundwater supply provides groundwater to the public.
(b) Collection of samples from each well unless the groundwater supply obtains written department approval to conduct monitoring at 1 or more wells within the groundwater supply that are representative of multiple wells used by that groundwater supply and that draw water from the same hydrogeologic setting.
(c) Collection of a standard sample volume of not less than 100 mL for fecal indicator analysis regardless of the fecal indicator or analytical method used.
(d) Analysis of all groundwater source samples using analytical methods adopted by reference in R 325.10605 for the presence of E. coli, or if approved by the department, for the presence of enterococci, or coliphage.
(e) Collection of groundwater source samples at a location before any treatment of the groundwater source unless the department approves a sampling location after treatment.
(f) Collection of groundwater source samples at the well itself unless the groundwater supply's configuration does not allow for sampling at the well itself and the department approves an alternate sampling location that is representative of the water quality of that well.
(3) All of the following provisions apply to invalidation of a fecal indicator positive groundwater source sample.
(a) A groundwater supply may obtain department invalidation of a fecal indicator positive groundwater source sample collected under triggered source water monitoring of subrule (1) of this rule only under either of the following conditions:
(i) The groundwater supply provides the department with written notice from the laboratory that improper sample analysis occurred.

(ii) The department determines and documents in writing that there is substantial evidence that a fecal indicator positive groundwater source sample is not related to source water quality.
(b) If the department invalidates a fecal indicator positive groundwater source sample, the groundwater supply shall collect another source water sample under subrule (1) of this rule within 24 hours of being notified by the department of its invalidation decision and have it analyzed for the same fecal indicator using analytical methods adopted by reference in R 325.10605. The department may extend the 24-hour time limit on a case-by-case basis if the groundwater supply cannot collect the source water sample within 24 hours due to circumstances beyond its control. In the case of an extension, the department will specify how much time the groundwater supply has to collect the sample.
(4) Both of the following provisions apply to sampling location:
(a) A groundwater source sample required under subrule (1) of this rule shall be collected at a location before treatment of the groundwater source unless the department approves a sampling location after treatment.
(b) If the groundwater supply's configuration does not allow for sampling at the well itself, the groundwater supply may collect a sample at a department approved location to meet the requirements of subrule (1) of this rule if the sample is representative of the water quality of that well.
(5) If directed by the department, a groundwater supply that places a new groundwater source into service after November 30, 2009, shall conduct assessment source water monitoring under subrule (2) of this rule. If directed by the department, the groundwater supply shall begin monitoring before the groundwater source is used to provide water to the public.
(6) A groundwater supply with a groundwater source sample collected under subrule (1) or (2) of this rule that is fecal indicator positive and that is not invalidated under subrule (3) of this rule, including consecutive supplies served by the groundwater source, shall conduct public notification under R 325.10402.
(7) Failure to meet the requirements of subrules (1) to (5) of this rule is a monitoring violation and requires the groundwater supply to provide public notification under R 325.10404.
History: 2009 AACS; 2015 MR 20, Eff. Oct. 16, 2015.

R 325.10739b
Source: 2009 AACS.

PART 8. GROUNDWATER SOURCES

R 325.10801
Source: 2009 AACS.

R 325.10802
Source: 2009 AACS.

R 325.10804
Source: 2009 AACS.

R 325.10805
Source: 2009 AACS.

R 325.10806
Source: 2009 AACS.

R 325.10807
Source: 1979 AC.

R 325.10808
Source: 1979 AC.

R 325.10809
Source: 2009 AACS.

R 325.10810

Source: 2009 AACS.

R 325.10811
Source: 1979 AC.

R 325.10812
Source: 2009 AACS.

R 325.10813
Source: 2009 AACS.

R 325.10814
Source: 2009 AACS.

R 325.10815
Source: 2009 AACS.

R 325.10816
Source: 1979 AC.

R 325.10817
Source: 1979 AC.

R 325.10818
Source: 1979 AC.

R 325.10819
Source: 1979 AC.

R 325.10820
Source: 1979 AC.

R 325.10821
Source: 1979 AC.

R 325.10822
Source: 1991 AACS.

R 325.10823
Source: 2009 AACS.

R 325.10824
Source: 1979 AC.

R 325.10825
Source: 1979 AC.

R 325.10826
Source: 1979 AC.

R 325.10827
Source: 1979 AC.

R 325.10828
Source: 2009 AACS.

R 325.10829
Source: 1979 AC.

R 325.10830
Source: 2009 AACS.

R 325.10831
Source: 2009 AACS.

R 325.10832
Source: 1979 AC.

R 325.10833
Source: 1997 AACS.

PART 9. SURFACE WATER SOURCES

R 325.10901
Source: 1979 AC.

R 325.10902
Source: 2009 AACS.

R 325.10904
Source: 2009 AACS.

R 325.10905
Source: 2009 AACS.

R 325.10906
Source: 1979 AC.

R 325.10907
Source: 1979 AC.

R 325.10908
Source: 1979 AC.

R 325.10909
Source: 1979 AC.

PART 10. TREATMENT SYSTEMS AND PUMPING FACILITIES

R 325.11001
Source: 2009 AACS.

R 325.11002
Source: 2009 AACS.

R 325.11004
Source: 2003 AACS.

R 325.11005
Source: 1979 AC.

R 325.11006
Source: 2009 AACS.

R 325.11007
Source: 2009 AACS.

R 325.11008

Source: 2003 AACS.

R 325.11009
Source: 2003 AACS.

R 325.11010
Source: 2009 AACS.

R 325.11011
Source: 2009 AACS.

R 325.11012
Source: 1979 AC.

R 325.11013
Source: 1979 AC.

R 325.11014
Source: 1979 AC.

R 325.11015
Source: 2009 AACS.

R 325.11016
Source: 2009 AACS.

PART 11. DISTRIBUTION SYSTEMS AND STORAGE TANKS

R 325.11101
Source: 1979 AC.

R 325.11102
Source: 2009 AACS.

R 325.11104
Source: 2009 AACS.

R 325.11105
Source: 2009 AACS.

R 325.11106
Source: 1979 AC.

R 325.11107
Source: 1979 AC.

R 325.11108
Source: 1979 AC.

R 325.11109
Source: 1979 AC.

R 325.11110
Source: 2009 AACS.

R 325.11111
Source: 2009 AACS.

R 325.11112

Source: 1979 AC.

R 325.11113
Source: 1979 AC.

R 325.11114
Source: 1979 AC.

R 325.11115
Source: 1979 AC.

R 325.11116
Source: 1979 AC.

R 325.11117
Source: 2009 AACS.

R 325.11118
Source: 2009 AACS.

PART 12. RELIABILITY

R 325.11201
Source: 1979 AC.

R 325.11202
Source: 2009 AACS.

R 325.11203 Study of water supply requirements for type I public water supply; proposal for compliance.
Rule 1203. (1) A type I public water supply shall conduct a study to determine the quantity of water supply needed for the waterworks system and shall propose a method of compliance in accordance with R 325.11204.
(2) The study required by subrule (1) of this rule shall be based on 5-year and 20-year projections of water use by the public water supply. The study shall be updated every 5 years unless the owner demonstrates that water use projections are stable and this requirement is waived by the department.
(3) At a minimum, the information presented in this study shall include all of the following:
(a) Basic planning data, including current population, number of service connections, and equivalent residential units.
(b) Sufficient water production and consumption data to identify trends for both 5-year and 20-year planning periods, including the following elements:
(i) The present and projected average daily demand.
(ii) The present and projected maximum daily demand.
(iii) The present and projected maximum hourly demand.
(iv) The present and projected peak instantaneous demand for systems using hydropneumatic storage.
(v) The present and projected fire flow demand.
(vi) The basis of demand projections.
(vii) Monthly and annual production totals for each source, including water purchased from another public water supply.
(viii) Annual usage totals for water supplied to other public water supplies.
(ix) Annual usage totals for each customer class as determined by the public water supply.
(c) A water shortage response plan for emergencies.
(4) Permits shall not be issued by the department to a public water supply unless an approved study of water supply quantity requirements is available.
History: 1979 AC; 2009 AACS; 2015 MR 20, Eff. Oct. 16, 2015.

R 325.11204
Source: 2009 AACS.

R 325.11205
Source: 2009 AACS.

R 325.11206
Source: 2009 AACS.

R 325.11207
Source: 1979 AC.

PART 13. CONSTRUCTION PLANS AND SPECIFICATIONS AND PERMITS

R 325.11301
Source: 2009 AACS.

R 325.11302
Source: 2009 AACS.

R 325.11303
Source: 2009 AACS.

R 325.11304
Source: 2009 AACS.

R 325.11305
Source: 2009 AACS.

R 325.11306
Source: 2009 AACS.

R 325.11307
Source: 1979 AC.

R 325.11308
Source: 2009 AACS.

R 325.11309
Source: 1979 AC.

R 325.11310
Source: 2009 AACS.

R 325.11311
Source: 2009 AACS.

PART 14. CROSS-CONNECTIONS

R 325.11401 Definitions.
Rule 1401. As used in this part:
(a) "Backflow" means water of questionable quality, wastes, or other contaminants entering a potable water supply system due to a reversal of flow.
(b) “Unprotected cross connection” means a cross connection between a potable and non-potable system where inadequate methods are provided to prevent backflow.
History: 1979 AC; 2015 MR 20, Eff. Oct. 16, 2015.

R 325.11402 Compliance with regulations and local codes.
Rule 1402. A connection with a public water supply system shall comply with existing laws, ordinances, codes, and rules including:
(a) All sections of the Michigan plumbing code or the Michigan residential code pertaining to backflow and cross connection control. The codes allow for existing plumbing systems to stay as currently installed, providing they were installed properly according to the code in effect at the time of installation and they do not currently present a safety hazard.

(b) Local ordinances or rules providing acceptable protection against cross connections.
History: 1979 AC; 2009 AACS; 2015 MR 20, Eff. Oct. 16, 2015.

R 325.11403 Cross-connections prohibited.
Rule 1403. (1) A temporary or permanent unprotected cross connection between a public water supply system and any source, piping, or system that may contain nonpotable water or other substances is prohibited.
(2) Subrule (1) of this rule applies to all customer types, such as, industrial, commercial, institutional, governmental, and single and multi-unit residential.
(3) Piping configurations creating the potential for water from a public distribution system to flow through a private water main or customer site piping and back into the public system are prohibited. Areas of private water main served by two or more service connections, where flow through the private system can re-enter the public system shall have cross connection control protection installed at each connection point to the public system.
History: 1979 AC; 2015 MR 20, Eff. Oct. 16, 2015.

R 325.11404 Local cross connection control programs.
Rule 1404. (1) A type 1 public water supply shall develop a comprehensive control program for the elimination and prevention of all cross connections. The plan for the program shall be submitted to the department for review and approval. Supplies may use the best practices manual for cross connection control prepared by the department, office of drinking water and municipal assistance, listed in R 325.10113 when developing a cross connection control program. When the plan is approved, the water supply shall implement the program for removal of all existing cross connections and prevention of all future cross connections.
(2) At a minimum, the program shall include all of the following:
(a) A complete description of the method of administering the program, including the designation of inspection and enforcement agency or agencies. The local authority for implementation of the program shall be indicated, preferably by ordinance.
(b) A time schedule for inspection and reinspection of all water supply customers' premises for possible cross connections. The periodic reinspection shall be to ascertain if safe air gaps or required backflow preventers are in place.
(c) A description of the methods and backflow preventers, as approved by the department, used to protect the public water supply.
(d) A time schedule for the testing of all testable backflow preventers. The schedule contained in the program shall require testing at least once every 3 years. Backflow preventers installed on lawn irrigation systems with no chemical treatment may be tested once every 5 years if specified within the approved local cross connection control program.
(e) A description of the time allowed for a customer to complete necessary corrections.
(f) A description of the record keeping methods.
(3) Upon receiving written notice from the department, a public water supply shall provide an updated program within 6 months.
(4) A water supply shall report annually to the department on the status of the cross connection control program on a form provided by the department.
History: 1979 AC; 1998 AACS; 2009 AACS; 2015 MR 20, Eff. Oct. 16, 2015.

R 325.11405 Backflow preventers; tester qualifications and corrections.
Rule 1405. (1) Backflow preventers shall meet the applicable ASSE or CSA standards.
(2) Beginning January 1, 2018, test results of backflow preventers are valid only if testing was performed by individuals holding an active ASSE 5110 certification.
(3) The total time allowed for completion of the necessary corrections shall be contingent upon the degree of hazard involved and include the time required to obtain and install equipment. If the cross connection has not been removed or properly protected, after a reasonable period of time, the water supply shall shut off the water supply to the premises or physically separate the public water supply system from the onsite piping system in a manner that the 2 systems cannot again be connected by any unauthorized person.
History: 1979 AC; 1998 AACS; 2009 AACS; 2015 MR 20, Eff. Oct. 16, 2015.

R 325.11406
Source: 1998-2000 AACS.

R 325.11407
Source: 1979 AC.

PART 15. OPERATION REPORTS AND RECORDKEEPING

R 325.11501
Source: 2009 AACS.

R 325.11502
Source: 2009 AACS.

R 325.11503
Source: 2003 AACS.

R 325.11504
Source: 2009 AACS.

R 325.11505
Source: 2009 AACS.

R 325.11505a
Source: 2009 AACS.

R 325.11506
Source: 2009 AACS.

R 325.11507
Source: 2009 AACS.

R 325.11508
Source: 2009 AACS.

R 325.11509 Retention of records; groundwater supply rules.
Rule 1509. In addition to the requirements of R 325.11506, a groundwater supply subject to R 325.10612 shall maintain all of the following information in its records:
(a) Documentation of corrective actions shall be kept for a period of not less than 10 years.
(b) Documentation of notice to the public as required under R 325.10408c shall be kept for a period of not less than 3 years.
(c) Records of decisions under R 325.10739(1)(e)(ii) and records of invalidation of fecal indicator-positive groundwater source samples under R 325.10739(3) shall be kept for a period of not less than 5 years.
(d) For consecutive supplies, documentation of notification to the wholesale supply or supplies of total-coliform positive samples that are not invalidated under R 325.10707a, until March 31, 2016, or under R 325.10704c beginning April 1, 2016 shall be kept for a period of not less than 5 years.
(e) For groundwater supplies, including wholesale supplies, that are required to perform compliance monitoring under R 325.10739a all of the following shall be kept:
(i) Records of the department-specified minimum disinfectant residual shall be kept for a period of not less than 10 years.
(ii) Records of the lowest daily residual disinfectant concentration and records of the date and duration of any failure to maintain the department-prescribed minimum residual disinfectant concentration for a period of more than 4 hours shall be kept for a period of not less than 5 years.
(iii) Records of department-specified compliance requirements for membrane filtration and of parameters specified by the department for department-approved alternative treatment and records of the date and duration of any failure to meet the membrane operating, membrane integrity, or alternative treatment operating requirements for more than 4 hours shall be kept for a period of not less than 5 years.
History: 2009 AACS; 2015 MR 20, Eff. Oct. 16, 2015.

R 325.11510 Retention of records; total coliform.
Rule 1510. In addition to the requirements of R 325.11506, a community or noncommunity water supply subject to the total coliform rules in R 325.10704a shall maintain in its records the assessment form, regardless of who conducts the

assessment, and documentation of corrective actions completed as a result of those assessments, or other available summary documentation of the sanitary defects and corrective actions taken under R 325.10704i for department review. This record shall be maintained by the supply for a period not less than 5 years after completion of the assessment or corrective action.
History: 2015 MR 20, Eff. Oct. 16, 2015.

PART 16. GENERAL PLANS

R 325.11601
Source: 2009 AACS.

R 325.11602
Source: 2009 AACS.

R 325.11603
Source: 2009 AACS.

R 325.11604
Source: 2009 AACS.

R 325.11605
Source: 2009 AACS.

R 325.11606 Community water supplies; additional general plan requirements; asset management program; capital improvements plan.
Rule 1606. (1) A community water supply that serves more than 1,000 people shall implement an asset management program as defined in R 325.10102 beginning January 1, 2018, unless otherwise required in this subrule. Supplies may use the reference guide for asset management tools, May 2014, prepared by the U.S. Environmental Protection Agency and listed in R 325.10113 when developing an asset management program. Supplies shall include in the general plan each of the following:
(a) A summary detailing the system used to maintain an inventory of assets. Priority shall be given to an inventory of source, treatment, pumping, and distribution system assets.
(b) A summary describing the method used to assess the criticality of assets considering the likelihood and consequence of failure.
(c) A statement of level of service goals.
(d) A capital improvements plan that identifies waterworks system needs for 5-year and 20-year planning periods. A publicly owned or operated supply shall comply beginning January 1, 2016. A privately owned supply shall comply beginning January 1, 2018.
(e) A summary detailing the funding structure and rate methodology that provides sufficient resources to implement the asset management program.
(2) A community water supply that serves 1,000 or fewer people and that is publicly owned or operated shall include in the general plan a capital improvements plan that identifies waterworks system needs for 5-year and 20-year planning periods. A supply shall comply beginning January 1, 2016.
(3) A community water supply may include additional information with the general plan, including the current reliability study, annual pumpage report, sample siting plan, source water protection plan, water conservation/efficiency program, waterworks operation and maintenance programs, regional planning documents, and relevant zoning and land use plans for the service area.
History: 2009 AACS; 2015 MR 20, Eff. Oct. 16, 2015.

PART 17. OWNERSHIP OF PUBLIC WATER SUPPLIES

R 325.11701
Source: 1979 AC.

R 325.11702
Source: 1979 AC.

R 325.11703
Source: 2009 AACS.

R 325.11704
Source: 1979 AC.

R 325.11705 Private ownership of type I public water supply permitted; proof of refusal to accept ownership or operational responsibility by governmental entity.
Rule 1705. (1) If the department determines that ownership and operation of a type I public water supply by a local governmental agency is not practical for a particular public water supply, private ownership shall be allowed with adequate provisions to assure a continuous operation of the public water supply which meets the requirements of the act and these rules.
(2) The department shall not accept plans and specifications from, nor shall a permit be issued to, an owner of a proposed type I public water supply which is to be privately owned unless proof of refusal to accept ownership or operational responsibility of that public water supply is submitted in a formal resolution of the governing body of a city, county, village, township, or other governmental entity under whose jurisdiction the public water supply is included, or where proof of refusal is established to the satisfaction of the department.
History: 1979 AC; 2015 MR 20, Eff. Oct. 16, 2015.

R 325.11706
Source: 1979 AC.

R 325.11707
Source: 2009 AACS.

R 325.11708
Source: 2009 AACS.

R 325.11709
Source: 1979 AC.

R 325.11710
Source: 1979 AC.

R 325.11711
Source: 2009 AACS.

R 325.11712
Source: 1979 AC.

R 325.11713
Source: 2009 AACS.

PART 19. EXAMINATION AND CERTIFICATION OF OPERATORS

R 325.11901
Source: 1998-2000 AACS.

R 325.11902
Source: 1998-2000 AACS.

R 325.11903
Source: 1998-2000 AACS.

R 325.11904
Source: 2009 AACS.

R 325.11905
Source: 1998-2000 AACS.

R 325.11906
Source: 1998-2000 AACS.

R 325.11906a Restricted certificates.
Rule 1906a. With the concurrence of the advisory board, the department may issue site specific, restricted certification to an operator on a case-by-case basis. An operator issued restricted certification under this rule is only authorized to operate the waterworks system or portion of the system that is designated on the restricted certificate issued to him or her, except such operator may operate any other waterworks system or portion of a system for which he or she holds an unrestricted certification. An operator with a restricted certification is subject to the same requirements for performance as other certification classes and the certificate may be suspended or revoked or the operator placed on probation under R 325.11917.
History: 2000 AACS; 2009 AACS; 2015 MR 20, Eff. Oct. 16, 2015.

R 325.11906b
Source: 1998-2000 AACS.

R 325.11907
Source: 1991 AACS.

R 325.11908
Source: 2009 AACS.

R 325.11909
Source: 1991 AACS.

R 325.11910 Application for examination; notice to accepted applicants of examination.
Rule 1910. (1) To be certified for the operation of a public water supply, an individual shall submit to the department, not less than 60 days before the announced examination date, an application for examination on a form provided by the department. This deadline is extended to not less than 30 days before the examination for the F-5, D-5, or S-5 classification examinations if proof of credit card or debit card fee payment under MCL 324.3110 is submitted with the application. The information contained on the application shall be evaluated by the department, shall be subject to review by the advisory board, and shall constitute a part of the examination. The department may require verification of the education and experience of an applicant for an examination.
(2) Not less than 15 days before the examination the department shall notify all applicants of its findings and shall notify those applicants accepted for examination of the date, time, and place of the examination.
(3) For the purposes of certifying individuals attending specific department approved training programs specified under R 325.11906a, the department may waive the requirement for an examination application.
History: 1979 AC; 1991 AACS; 2000 AACS; 2015 MR 20, Eff. Oct. 16, 2015.

R 325.11911
Source: 1998-2000 AACS.

R 325.11912
Source: 1998-2000 AACS.

R 325.11913
Source: 2009 AACS.

R 325.11914
Source: 1998-2000 AACS.

R 325.11915 Renewal requirements.
Rule 1915. (1) The department shall renew a certificate on a 3-year cycle. To renew a certificate, a certificate holder shall submit, to the department, an application for renewal on a form provided by the department.

2) To have a certificate renewed, a holder of a drinking water certificate shall satisfy the minimum criteria for continuing education requirements as required in the following table:

Table 1. Minimum requirements for continuing education

Highest certification level held	Minimum number of continuing education training hours required to renew	Minimum number of continuing education training hours categorized as "technical", "managerial," or both
1 or 2	24	18
3	24	12
4	12	6
5	9	no minimum

(3) Types of education or training programs that may be approved include any of the following:
(a) Association programs that are sponsored by any of the following entities:
(i) American water works association.
(ii) Township, municipal, and county organizations.
(iii) Professional and trade organizations.
(iv) National rural water association.
(b) Distance learning, such as videotapes, DVDs, correspondence courses, and online courses.
(c) Private contractor technical courses.
(d) University, college, and community college courses.
(e) Department and environmental protection agency sponsored training programs.
(f) Training sponsored by nationally recognized organizations.
(g) Water utility in-service training.
(4) A holder of a certificate shall be responsible for renewal of a certificate regardless of notification.
(5) A certificate holder shall keep his or her own record of approved training, education, and work experience and be prepared to present proof of that training, education, and experience if required by the department.
(6) The failure of an applicant for renewal to meet the requirements of this subrule and subrules (1) to (5) of this rule shall constitute grounds for refusing to renew a certificate.
(7) For a holder of multiple certificates within a category, the department shall only renew the certificate representing the higher class within a waterworks system category.
(8) A holder of a certificate who is not eligible for renewal or who has been refused renewal pursuant to subrules (1) to (7) of this rule may apply for examination pursuant to R 325.11910.
(9) A holder of a certificate who has not met the continuing education requirements of subrule (2) of this rule for his or her certification may be issued a certificate for the classification within the same category for which the continuing education requirements have been met. A certificate that is not renewed shall expire.
History: 1979 AC; 1991 AACS; 2000 AACS; 2009 AACS; 2015 MR 20, Eff. Oct. 16, 2015.

R 325.11915a
Source: 1998-2000 AACS.

R 325.11916
Source: 1997 AACS.

R 325.11917
Source: 2009 AACS.

R 325.11918
Source: 1979 AC.

PART 21. APPROVAL OF CHEMICALS AND OTHER MATERIALS

R 325.12101
Source: 1979 AC.

R 325.12102 Approval of chemicals and other materials.

Rule 2102. (1) Approval by the department is required for all chemicals, coatings or paints, proprietary products, and similar materials of any description, that are used or are proposed for use in, or in contact with, drinking water at any point in the waterworks system from the source to the ultimate point of distribution of the water.
(2) The public water supply shall determine that approval for a chemical or material has been granted by the department and determine the special conditions or limitations under which that approval was granted.
(3) All chemicals or components that may come in contact with water intended for use in a public water supply shall meet ANSI/NSF standards 60 and 61, as adopted by reference in R 325.10112.
History: 1979 AC; 2009 AACS; 2015 MR 20, Eff. Oct. 16, 2015.

R 325.12103
Source: 1979 AC.

R 325.12104
Source: 1979 AC.

R 325.12105
Source: 1979 AC.

R 325.12106
Source: 1979 AC.

R 325.12107
Source: 1979 AC.

R 325.12108
Source: 1979 AC.

R 325.12109
Source: 1979 AC.

R 325.12110
Source: 1979 AC.

PART 23. EMERGENCY RESPONSE PLANS

R 325.12301
Source: 2009 AACS.

R 325.12302 Preparation; timetable; exceptions.
Rule 2302. (1) Unless specifically waived by the department, a type I public water supply, including a type I public water supply that purchases water from another public water supply, shall prepare, or cause to be prepared, an emergency response plan.
(2) The department may require certain type II public water supplies to prepare emergency response plans in accordance with the requirements of this part.
(3) If a public water supply has an existing emergency response plan, it shall be updated on the schedule contained in the plan to include any requirements specified by this part.
History: 1979 AC; 2009 AACS; 2015 MR 20, Eff. Oct. 16, 2015.

R 325.12303
Source: 2009 AACS.

R 325.12304
Source: 2009 AACS.

PART 24. WATER HAULING EQUIPMENT STANDARDS

R 325.12401
Source: 1979 AC.

R 325.12402
Source: 1979 AC.

R 325.12403
Source: 1979 AC.

R 325.12404
Source: 1979 AC.

R 325.12405
Source: 1979 AC.

R 325.12406
Source: 1979 AC.

R 325.12407
Source: 1979 AC.

R 325.12408
Source: 1979 AC.

PART 25. LICENSING OF WATER HAULERS

R 325.12501
Source: 1979 AC.

R 325.12502
Source: 1979 AC.

R 325.12503
Source: 2009 AACS.

R 325.12504
Source: 1979 AC.

R 325.12505
Source: 2009 AACS.

R 325.12506
Source: 1979 AC.

R 325.12507
Source: 1979 AC.

R 325.12508
Source: 1979 AC.

R 325.12509
Source: 1979 AC.

R 325.12510
Source: 1979 AC.

PART 26. BOTTLED WATER

R 325.12601
Source: 1979 AC.

R 325.12602
Source: 1979 AC.

R 325.12603
Source: 1979 AC.

R 325.12604 Rescinded.
History: 1979 AC; 2015 MR 20, Eff. Oct. 16, 2015.

R 325.12605
Source: 1979 AC.

R 325.12606
Source: 1979 AC.

PART 27. LABORATORY CERTIFICATION

R 325.12701
Source: 2009 AACS.

R 325.12702
Source: 2005 AACS.

R 325.12705
Source: 2005 AACS.

R 325.12706
Source: 2005 AACS.

R 325.12707
Source: 2009 AACS.

PART 28. WELLHEAD PROTECTION GRANT ASSISTANCE

R 325.12801
Source: 2009 AACS.

R 325.12802
Source: 2009 AACS.

R 325.12803
Source: 2009 AACS.

R 325.12804
Source: 2009 AACS.

R 325.12805
Source: 2009 AACS.

R 325.12806
Source: 2009 AACS.

R 325.12807
Source: 2009 AACS.

R 325.12808
Source: 2009 AACS.

R 325.12809
Source: 2009 AACS.

R 325.12810
Source: 2009 AACS.

R 325.12812
Source: 2009 AACS.

R 325.12813
Source: 2009 AACS.

R 325.12814
Source: 2009 AACS.

R 325.12815
Source: 2009 AACS.

R 325.12816
Source: 2009 AACS.

R 325.12817
Source: 2009 AACS.

R 325.12818
Source: 2009 AACS.

R 325.12819
Source: 2009 AACS.

R 325.12820
Source: 2009 AACS.

DEPARTMENT OF COMMUNITY HEALTH

OFFICE OF LOCAL HEALTH SERVICES

LOCAL HEALTH PERSONNEL

R 325.13001
Source: 2011 AACS.

R 325.13002
Source: 2011 AACS.

R 325.13003
Source: 1980 AACS.

R 325.13004
Source: 1980 AACS.

R 325.13004a
Source: 2011 AACS.

R 325.13005
Source: 1980 AACS.

R 325.13006
Source: 1980 AACS.

R 325.13007
Source: 1980 AACS.

R 325.13008
Source: 1980 AACS.

R 325.13009
Source: 1980 AACS.

COST-SHARED SERVICES

R 325.13051 Rescinded.
History: 1981 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.13053 Rescinded.
History: 1981 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.13055 Rescinded.
History: 1981 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.13057 Rescinded.
History: 1981 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.13059 Rescinded.
History: 1981 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.13061 Rescinded.
History: 1981 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.13063 Rescinded.
History: 1981 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.13065 Rescinded.
History: 1981 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.13067 Rescinded.
History: 1981 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.13069 Rescinded.
History: 1981 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

R 325.13071 Rescinded.
History: 1981 AACS; 2015 MR 21, Eff. Nov. 10, 2015.

DIVISION OF CHILD HEALTH

VISION SCREENING AND TESTING

R 325.13091
Source: 2004 AACS.

R 325.13092
Source: 2004 AACS.

R 325.13093
Source: 1981 AACS.

R 325.13094
Source: 2004 AACS.

R 325.13095
Source: 1981 AACS.

R 325.13096
Source: 1981 AACS.

DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

BUREAU OF HEALTH FACILITIES

HOSPICE

PART 1. GENERAL PROVISIONS

R 325.13101
Source: 2003 AACS.

R 325.13102
Source: 2003 AACS.

R 325.13104
Source: 2003 AACS.

R 325.13105
Source: 2003 AACS.

R 325.13106
Source: 2003 AACS.

R 325.13107
Source: 2003 AACS.

R 325.13108
Source: 2003 AACS.

R 325.13109
Source: 2003 AACS.

R 325.13110
Source: 2003 AACS.

R 325.13111
Source: 2003 AACS.

PART 2. LICENSURE

R 325.13201
Source: 2003 AACS.

R 325.13202
Source: 2003 AACS.

R 325.13203
Source: 1984 AACS.

R 325.13204
Source: 1984 AACS.

R 325.13205
Source: 2003 AACS.

R 325.13206
Source: 2014 AACS.

R 325.13207
Source: 2003 AACS.

R 325.13208
Source: 2003 AACS.

R 325.13209
Source: 2003 AACS.

R 325.13210
Source: 1984 AACS.

R 325.13211
Source: 2003 AACS.

R 325.13212
Source: 2003 AACS.

R 325.13213
Source: 2003 AACS.

PART 3. SERVICES

R 325.13301
Source: 2003 AACS.

R 325.13302
Source: 2003 AACS.

R 325.13303
Source: 2003 AACS.

R 325.13304
Source: 2003 AACS.

R 325.13305
Source: 2003 AACS.

R 325.13306
Source: 2003 AACS.

R 325.13307
Source: 2003 AACS.

PART 4. HEARING PROCEDURE

R 325.13401
Source: 2003 AACS.

R 325.13402
Source: 2003 AACS.

R 325.13403
Source: 2003 AACS.

R 325.13404
Source: 2003 AACS.

R 325.13405
Source: 2003 AACS.

R 325.13406
Source: 2003 AACS.

R 325.13407
Source: 2003 AACS.

R 325.13408
Source: 2003 AACS.

R 325.13409
Source: 2003 AACS.

R 325.13410
Source: 2003 AACS.

R 325.13411
Source: 2003 AACS.

R 325.13412
Source: 2003 AACS.

R 325.13413
Source: 2003 AACS.

R 325.13414
Source: 2003 AACS.

R 325.13415
Source: 2003 AACS.

R 325.13416
Source: 2003 AACS.

R 325.13417
Source: 2003 AACS.

R 325.13418
Source: 2003 AACS.

PART 5. HOSPICE RESIDENCES PROVIDING CARE ONLY AT THE HOME CARE LEVEL

R 325.13501
Source: 2003 AACS.

R 325.13503
Source: 2003 AACS.

R 325.13505
Source: 2003 AACS.

R 325.13507
Source: 2003 AACS.

R 325.13509
Source: 2003 AACS.

R 325.13511
Source: 2003 AACS.

R 325.13513
Source: 2003 AACS.

R 325.13515
Source: 2003 AACS.

R 325.13517
Source: 2003 AACS.

R 325.13519
Source: 2003 AACS.

R 325.13521
Source: 2003 AACS.

R 325.13523
Source: 2003 AACS.

R 325.13525
Source: 2003 AACS.

R 325.13527
Source: 2003 AACS.

R 325.13529
Source: 2003 AACS.

R 325.13531
Source: 2003 AACS.

R 325.13533
Source: 2003 AACS.

R 325.13535
Source: 2003 AACS.

R 325.13537
Source: 2003 AACS.

R 325.13539
Source: 2003 AACS.

R 325.13541
Source: 2003 AACS.

R 325.13543
Source: 2003 AACS.

DEPARTMENT OF COMMUNITY HEALTH

OFFICE OF SUBSTANCE ABUSE SERVICES

SUBSTANCE ABUSE SERVICE PROGRAM

PART 1. GENERAL PROVISIONS

R 325.14101
Source: 2006 AACS.

R 325.14102
Source: 2006 AACS.

R 325.14103
Source: 2006 AACS.

R 325.14104
Source: 1981 AACS.

R 325.14105
Source: 1981 AACS.

R 325.14106
Source: 1981 AACS.

R 325.14107
Source: 1981 AACS.

R 325.14108
Source: 1981 AACS.

R 325.14109
Source: 1981 AACS.

R 325.14110
Source: 1981 AACS.

R 325.14111
Source: 1981 AACS.

R 325.14112
Source: 1981 AACS.

R 325.14113
Source: 1981 AACS.

R 325.14114
Source: 1981 AACS.

R 325.14115
Source: 1981 AACS.

R 325.14116
Source: 1988 AACS.

R 325.14117
Source: 1981 AACS.

R 325.14125
Source: 1981 AACS.

PART 2. LICENSURE OF SUBSTANCE ABUSE PROGRAMS

R 325.14201
Source: 1981 AACS.

R 325.14202
Source: 1981 AACS.

R 325.14203
Source: 1981 AACS.

R 325.14204
Source: 1981 AACS.

R 325.14205
Source: 1981 AACS.

R 325.14206
Source: 1981 AACS.

R 325.14207
Source: 1981 AACS.

R 325.14208
Source: 2006 AACS.

R 325.14209
Source: 1981 AACS.

R 325.14210
Source: 1981 AACS.

R 325.14211
Source: 1981 AACS.

R 325.14212
Source: 1981 AACS.

R 325.14213
Source: 2006 AACS.

R 325.14214
Source: 1981 AACS.

PART 3. RECIPIENT RIGHTS

R 325.14301
Source: 1981 AACS.

R 325.14302
Source: 1981 AACS.

R 325.14303
Source: 1981 AACS.

R 325.14304
Source: 1981 AACS.

R 325.14305
Source: 1981 AACS.

R 325.14306
Source: 1981 AACS.

PART 4. METHADONE TREATMENT AND OTHER CHEMOTHERAPY

R 325.14401
Source: 1981 AACS.

R 325.14402
Source: 1981 AACS.

R 325.14403
Source: 1981 AACS.

R 325.14404
Source: 1981 AACS.

R 325.14405
Source: 1981 AACS.

R 325.14406
Source: 1981 AACS.

R 325.14407
Source: 1981 AACS.

R 325.14408
Source: 1981 AACS.

R 325.14409
Source: 1981 AACS.

R 325.14410
Source: 1981 AACS.

R 325.14411
Source: 1981 AACS.

R 325.14412
Source: 1981 AACS.

R 325.14413
Source: 1981 AACS.

R 325.14414
Source: 1981 AACS.

R 325.14415
Source: 1981 AACS.

R 325.14416
Source: 1981 AACS.

R 325.14417
Source: 1981 AACS.

R 325.14418
Source: 1981 AACS.

R 325.14419
Source: 2006 AACS.

R 325.14420
Source: 1981 AACS.

R 325.14421
Source: 1981 AACS.

R 325.14422
Source: 1981 AACS.

R 325.14423
Source: 1981 AACS.

PART 5. PREVENTION

R 325.14501
Source: 1981 AACS.

R 325.14521
Source: 2006 AACS.

R 325.14522
Source: 2006 AACS.

R 325.14523
Source: 2006 AACS.

R 325.14524
Source: 2006 AACS.

R 325.14525
Source: 2006 AACS.

R 325.14526
Source: 2006 AACS.

R 325.14527
Source: 2006 AACS.

R 325.14528
Source: 2006 AACS.

R 325.14529
Source: 2006 AACS.

R 325.14530
Source: 2006 AACS.

PART 6. CASEFINDING

R 325.14601
Source: 1981 AACS.

R 325.14602

Source: 1981 AACS.

R 325.14603
Source: 1981 AACS.

R 325.14621
Source: 2006 AACS.

R 325.14622
Source: 2006 AACS.

R 325.14623
Source: 2006 AACS.

PART 7. OUTPATIENT PROGRAMS

R 325.14701
Source: 1981 AACS.

R 325.14702
Source: 1981 AACS.

R 325.14703
Source: 1981 AACS.

R 325.14704
Source: 1981 AACS.

R 325.14705
Source: 1981 AACS.

R 325.14706
Source: 1981 AACS.

R 325.14707
Source: 1981 AACS.

R 325.14708
Source: 1981 AACS.

R 325.14709
Source: 1981 AACS.

R 325.14710
Source: 1981 AACS.

R 325.14711
Source: 1981 AACS.

R 325.14712
Source: 1981 AACS.

PART 8. INPATIENT PROGRAMS

R 325.14801
Source: 1981 AACS.

R 325.14802

Source: 1981 AACS.

R 325.14803
Source: 1981 AACS.

R 325.14804
Source: 1981 AACS.

R 325.14805
Source: 1981 AACS.

R 325.14806
Source: 1981 AACS.

R 325.14807
Source: 1981 AACS.

PART 9. RESIDENTIAL PROGRAMS

R 325.14901
Source: 1981 AACS.

R 325.14902
Source: 1981 AACS.

R 325.14903
Source: 1981 AACS.

R 325.14904
Source: 1981 AACS.

R 325.14905
Source: 1981 AACS.

R 325.14906
Source: 1981 AACS.

R 325.14907
Source: 1981 AACS.

R 325.14908
Source: 1981 AACS.

R 325.14909
Source: 1981 AACS.

R 325.14910
Source: 1981 AACS.

R 325.14911
Source: 1981 AACS.

R 325.14921
Source: 1981 AACS.

R 325.14922
Source: 1981 AACS.

R 325.14923

Source: 1981 AACS.

R 325.14924
Source: 1981 AACS.

R 325.14925
Source: 1981 AACS.

R 325.14926
Source: 1981 AACS.

R 325.14927
Source: 1981 AACS.

R 325.14928
Source: 1981 AACS.

DEPARTMENT OF ENVIRONMENTAL QUALITY

DIVISION OF OCCUPATIONAL HEALTH

CLASS IV DRY CLEANING ESTABLISHMENTS

PART 1. GENERAL PROVISIONS

R 325.17101
Source: 2004 AACS.

R 325.17102
Source: 2004 AACS.

R 325.17103
Source: 2004 AACS.

R 325.17104
Source: 2004 AACS.

R 325.17105
Source: 2004 AACS.

R 325.17106
Source: 2004 AACS.

R 325.17107
Source: 2004 AACS.

R 325.17108
Source: 2004 AACS.

R 325.17109
Source: 2004 AACS.

PART 2. DRAWINGS

R 325.17201
Source: 2004 AACS.

R 325.17202
Source: 2004 AACS.

R 325.17203
Source: 2004 AACS.

R 325.17203a
Source: 2004 AACS.

R 325.17204
Source: 2004 AACS.

R 325.17205
Source: 2004 AACS.

R 325.17206
Source: 2004 AACS.

R 325.17207
Source: 2004 AACS.

R 325.17208
Source: 2004 AACS.

R 325.17209
Source: 2004 AACS.

R 325.17210
Source: 2004 AACS.

R 325.17211
Source: 2004 AACS.

PART 3. LICENSURE

R 325.17301
Source: 2004 AACS.

R 325.17302
Source: 2004 AACS.

R 325.17303
Source: 2004 AACS.

R 325.17304
Source: 2004 AACS.

R 325.17305
Source: 2004 AACS.

R 325.17306
Source: 2004 AACS.

R 325.17307
Source: 2004 AACS.

R 325.17308
Source: 2004 AACS.

R 325.17309
Source: 2004 AACS.

PART 4. DRY CLEANING MACHINE REQUIREMENTS

R 325.17401
Source: 2004 AACS.

R 325.17402
Source: 2004 AACS.

R 325.17403
Source: 2004 AACS.

R 325.17404
Source: 2004 AACS.

R 325.17405
Source: 2004 AACS.

R 325.17406
Source: 2004 AACS.

R 325.17407
Source: 2004 AACS.

R 325.17408
Source: 2004 AACS.

R 325.17409
Source: 2004 AACS.

PART 5. BUILDING REQUIREMENTS

R 325.17501
Source: 2004 AACS.

R 325.17502
Source: 2004 AACS.

R 325.17503
Source: 2004 AACS.

R 325.17504
Source: 2004 AACS.

R 325.17505
Source: 2004 AACS.

R 325.17506
Source: 2004 AACS.

R 325.17507

Source: 2004 AACS.

R 325.17508
Source: 2004 AACS.

R 325.17509
Source: 2004 AACS.

R 325.17510
Source: 2004 AACS.

PART 7. INSTALLATION, OPERATION, AND VENTILATION

R 325.17701
Source: 2004 AACS.

R 325.17702
Source: 2004 AACS.

R 325.17703
Source: 2004 AACS.

R 325.17704
Source: 2004 AACS.

R 325.17705
Source: 2004 AACS.

R 325.17706
Source: 2004 AACS.

R 325.17707
Source: 2004 AACS.

R 325.17708
Source: 2004 AACS.

R 325.17709
Source: 2004 AACS.

R 325.17710
Source: 2004 AACS.

R 325.17711
Source: 2004 AACS.

R 325.17712
Source: 2004 AACS.

R 325.17713
Source: 2004 AACS.

R 325.17714
Source: 2004 AACS.

PART 9. INSPECTIONS OF DRY CLEANING ESTABLISHMENTS

R 325.17901
Source: 2004 AACS.

R 325.17902
Source: 2004 AACS.

R 325.17903
Source: 2004 AACS.

R 325.17904
Source: 2004 AACS.

R 325.17905
Source: 2004 AACS.

R 325.17906
Source: 2004 AACS.

PART 10. CONTESTED CASES

R 325.18001
Source: 2004 AACS.

R 325.18002
Source: 2004 AACS.

R 325.18003
Source: 2004 AACS.

R 325.18004
Source: 2004 AACS.

R 325.18005
Source: 2004 AACS.

R 325.18006
Source: 2004 AACS.

PART 11. TYPICAL DESIGN PRINTS AND DIAGRAMS

R 325.18101
Source: 2004 AACS.

R 325.18102
Source: 2004 AACS.

R 325.18103
Source: 2004 AACS.

R 325.18104
Source: 2004 AACS.

DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES
OCCUPATIONAL HEALTH STANDARDS COMMISSION

PROCESS SAFETY MANAGEMENT OF HIGHLY HAZARDOUS CHEMICALS

R 325.18301
Source: 2013 AACS.

R 325.18302
Source: 2013 AACS.

R 325.18303
Source: 2013 AACS.

HEALTH FACILITIES SERVICES ADMINISTRATION

NURSING HOMES AND NURSING CARE FACILITIES

PART 1. GENERAL PROVISIONS

R 325.20101
Source: 2014 AACS.

R 325.20102
Source: 2014 AACS.

R 325.20103
Source: 2014 AACS.

R 325.20104
Source: 1983 AACS.

R 325.20106
Source: 1981 AACS.

R 325.20107
Source: 1981 AACS.

R 325.20108
Source: 2014 AACS.

R 325.20109
Source: 1981 AACS.

R 325.20110
Source: 1981 AACS.

R 325.20111
Source: 1981 AACS.

R 325.20112
Source: 1981 AACS.

R 325.20113
Source: 1983 AACS.

R 325.20114
Source: 1981 AACS.

R 325.20115
Source: 2014 AACS.

R 325.20116
Source: 1981 AACS.

R 325.20117
Source: 1983 AACS.

R 325.20118
Source: 1981 AACS.

PART 2. LICENSURE

R 325.20201
Source: 1981 AACS.

R 325.20202
Source: 1981 AACS.

R 325.20203
Source: 1981 AACS.

R 325.20204
Source: 1981 AACS.

R 325.20205
Source: 1981 AACS.

R 325.20206
Source: 1983 AACS.

R 325.20207
Source: 1981 AACS.

R 325.20208
Source: 1981 AACS.

R 325.20209
Source: 1981 AACS.

R 325.20210
Source: 1981 AACS.

R 325.20211
Source: 1981 AACS.

R 325.20212
Source: 1981 AACS.

R 325.20213
Source: 1981 AACS.

R 325.20214
Source: 1981 AACS.

R 325.20215
Source: 2014 AACS.

PART 3. ACCESS TO NURSING HOMES AND PATIENTS

R 325.20301
Source: 1981 AACS.

R 325.20302
Source: 1983 AACS.

R 325.20303
Source: 1983 AACS.

R 325.20304
Source: 1983 AACS.

PART 4. ADMINISTRATIVE MANAGEMENT OF HOMES

R 325.20401
Source: 1981 AACS.

R 325.20402
Source: 1981 AACS.

R 325.20403
Source: 1981 AACS.

R 325.20404
Source: 1983 AACS.

R 325.20405
Source: 1981 AACS.

R 325.20406
Source: 1983 AACS.

R 325.20407
Source: 1981 AACS.

PART 5. PATIENT CARE

R 325.20501
Source: 1981 AACS.

R 325.20502
Source: 1983 AACS.

R 325.20503
Source: 1981 AACS.

R 325.20504
Source: 1981 AACS.

R 325.20505
Source: 1981 AACS.

R 325.20506
Source: 1981 AACS.

R 325.20507
Source: 1981 AACS.

R 325.20508
Source: 1981 AACS.

R 325.20509
Source: 1981 AACS.

PART 6. PHYSICIAN SERVICES

R 325.20601
Source: 1981 AACS.

R 325.20602
Source: 1981 AACS.

R 325.20603
Source: 1983 AACS.

R 325.20604
Source: 1981 AACS.

R 325.20605
Source: 1983 AACS.

R 325.20606
Source: 1981 AACS.

PART 7. NURSING SERVICES

R 325.20701
Source: 1983 AACS.

R 325.20702
Source: 1983 AACS.

R 325.20703
Source: 1986 AACS.

R 325.20704
Source: 1986 AACS.

R 325.20705
Source: 1981 AACS.

R 325.20706
Source: 1981 AACS.

R 325.20707
Source: 1983 AACS.

R 325.20708
Source: 1981 AACS.

R 325.20709
Source: 1984 AACS.

R 325.20710
Source: 1981 AACS.

R 325.20711
Source: 1983 AACS.

R 325.20712
Source: 1983 AACS.

R 325.20713
Source: 1981 AACS.

R 325.20714
Source: 1983 AACS.

PART 8. DIETARY SERVICES

R 325.20801
Source: 1983 AACS.

R 325.20802
Source: 1981 AACS.

R 325.20803
Source: 1981 AACS.

R 325.20804
Source: 1983 AACS.

R 325.20805
Source: 1981 AACS.

R 325.20806
Source: 1983 AACS.

PART 9. PHARMACEUTICAL SERVICES

R 325.20901
Source: 1983 AACS.

R 325.20902
Source: 1981 AACS.

R 325.20903
Source: 1981 AACS.

R 325.20904
Source: 1981 AACS.

R 325.20905
Source: 1981 AACS.

R 325.20906
Source: 1981 AACS.

PART 10. OTHER SERVICES

R 325.21001

Source: 1981 AACS.

R 325.21002
Source: 1981 AACS.

R 325.21003
Source: 1986 AACS.

PART 11. RECORDS

R 325.21101
Source: 1983 AACS.

R 325.21102
Source: 1983 AACS.

R 325.21103
Source: 1981 AACS.

R 325.21104
Source: 1981 AACS.

R 325.21105
Source: 1983 AACS.

PART 12. MEDICAL AUDIT, UTILIZATION REVIEW, AND QUALITY CONTROL

R 325.21201
Source: 1981 AACS.

R 325.21203
Source: 1981 AACS.

R 325.21204
Source: 1981 AACS.

PART 13. BUILDINGS AND GROUNDS

R 325.21301
Source: 1981 AACS.

R 325.21302
Source: 1981 AACS.

R 325.21303
Source: 2014 AACS.

R 325.21304
Source: 1981 AACS.

R 325.21305
Source: 1983 AACS.

R 325.21306
Source: 1983 AACS.

R 325.21307
Source: 1983 AACS.

R 325.21308
Source: 1981 AACS.

R 325.21309
Source: 1981 AACS.

R 325.21310
Source: 1981 AACS.

R 325.21311
Source: 1983 AACS.

R 325.21312
Source: 1981 AACS.

R 325.21313
Source: 1981 AACS.

R 325.21314
Source: 1981 AACS.

R 325.21315
Source: 1981 AACS.

R 325.21316
Source: 1983 AACS.

R 325.21317
Source: 2014 AACS.

R 325.21318
Source: 1981 AACS.

R 325.21319
Source: 1981 AACS.

R 325.21320
Source: 1981 AACS.

R 325.21321
Source: 1981 AACS.

R 325.21322
Source: 1981 AACS.

R 325.21323
Source: 1983 AACS.

R 325.21324
Source: 1981 AACS.

R 325.21325
Source: 1981 AACS.

R 325.21326
Source: 1983 AACS.

R 325.21327

Source: 1983 AACS.

R 325.21328
Source: 1981 AACS.

PART 14. CHILD CARE HOMES AND CHILD CARE UNITS

R 325.21401
Source: 1981 AACS.

R 325.21402
Source: 1981 AACS.

R 325.21403
Source: 1981 AACS.

R 325.21404
Source: 1981 AACS.

R 325.21405
Source: 1981 AACS.

R 325.21406
Source: 1981 AACS.

R 325.21407
Source: 1981 AACS.

R 325.21408
Source: 1981 AACS.

R 325.21409
Source: 1981 AACS.

R 325.21410
Source: 1981 AACS.

R 325.21411
Source: 1981 AACS.

PART 15. CERTIFICATION

R 325.21501
Source: 2014 AACS.

R 325.21502
Source: 1981 AACS.

R 325.21503
Source: 1981 AACS.

R 325.21504
Source: 2014 AACS.

R 325.21505
Source: 1981 AACS.

R 325.21506

Source: 1981 AACS.

R 325.21507
Source: 1981 AACS.

R 325.21508
Source: 2014 AACS.

R 325.21509
Source: 2014 AACS.

R 325.21510
Source: 2014 AACS.

R 325.21511
Source: 2014 AACS.

R 325.21512
Source: 1981 AACS.

R 325.21513 Rescinded.
History: 1981 AACS; 2015 MR 21, Eff. Nov. 13, 2015.

R 325.21514
Source: 1981 AACS.

R 325.21515
Source: 1981 AACS.

PART 16. NURSING FACILITIES FOR CARE OF MENTALLY ILL PATIENTS

R 325.21601
Source: 2014 AACS.

R 325.21602
Source: 2014 AACS.

R 325.21603
Source: 1981 AACS.

R 325.21604
Source: 1981 AACS.

R 325.21605
Source: 1981 AACS.

PART 17. NURSING FACILITIES FOR CARE OF MENTALLY RETARDED PATIENTS

R 325.21701
Source: 2014 AACS.

R 325.21702
Source: 2014 AACS.

R 325.21703
Source: 2014 AACS.

R 325.21704
Source: 2014 AACS.

R 325.21705
Source: 2014 AACS.

PART 18. NURSING FACILITIES FOR CARE OF TUBERCULOSIS PATIENTS

R 325.21801 Rescinded.
History: 1981 AACS; 2015 MR 21, Eff. Nov. 13, 2015.

R 325.21802 Rescinded.
History: 1981 AACS; 2015 MR 21, Eff. Nov. 13, 2015.

R 325.21803 Rescinded.
History: 1981 AACS; 2015 MR 21, Eff. Nov. 13, 2015.

R 325.21804 Rescinded.
History: 1981 AACS; 2015 MR 21, Eff. Nov. 13, 2015.

R 325.21805 Rescinded.
History: 1981 AACS; 2015 MR 21, Eff. Nov. 13, 2015.

R 325.21806 Rescinded.
History: 1981 AACS; 2015 MR 21, Eff. Nov. 13, 2015.

R 325.21807 Rescinded.
History: 1981 AACS; 2015 MR 21, Eff. Nov. 13, 2015.

PART 19. HEARING PROCEDURE

R 325.21901
Source: 1981 AACS.

R 325.21902
Source: 1981 AACS.

R 325.21903
Source: 1981 AACS.

R 325.21904
Source: 1981 AACS.

R 325.21905
Source: 1981 AACS.

R 325.21906
Source: 1981 AACS.

R 325.21907
Source: 1981 AACS.

R 325.21908
Source: 1981 AACS.

R 325.21909
Source: 1981 AACS.

R 325.21910
Source: 1981 AACS.

R 325.21911
Source: 1981 AACS.

R 325.21912
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R 325.21913
Source: 1981 AACS.

R 325.21914
Source: 1981 AACS.

R 325.21915
Source: 1981 AACS.

R 325.21916
Source: 1981 AACS.

R 325.21917
Source: 1981 AACS.

R 325.21918
Source: 1981 AACS.

R 325.21919
Source: 1981 AACS.

R 325.21920
Source: 1981 AACS.

R 325.21921
Source: 1981 AACS.

R 325.21922
Source: 1981 AACS.

PART 20. EDUCATION AND TRAINING OF UNLICENSED NURSING PERSONNEL

R 325.22001
Source: 1983 AACS.

R 325.22002
Source: 1983 AACS.

R 325.22003
Source: 1983 AACS.

R 325.22003a
Source: 1984 AACS.

R 325.22004
Source: 1983 AACS.

DEPARTMENT OF COMMUNITY HEALTH

DIRECTOR'S OFFICE

EMERGENCY MEDICAL SERVICES - LIFE SUPPORT AGENCIES & MEDICAL CONTROL

PART 1. GENERAL PROVISIONS

R 325.22101
Source: 2004 AACS.

R 325.22102
Source: 2004 AACS.

R 325.22103
Source: 2004 AACS.

R 325.22104
Source: 2004 AACS.

PART 2. LIFE SUPPORT AGENCIES-GENERAL

R 325.22111
Source: 2004 AACS.

R 325.22112
Source: 2014 AACS.

R 325.22113
Source: 2004 AACS.

R 325.22114
Source: 2004 AACS.

R 325.22115
Source: 2004 AACS.

R 325.22116
Source: 2004 AACS.

R 325.22117
Source: 2004 AACS.

R 325.22118
Source: 2004 AACS.

R 325.22119
Source: 2004 AACS.

R 325.22120
Source: 2004 AACS.

R 325.22121
Source: 2004 AACS.

R 325.22122
Source: 2004 AACS.

R 325.22123

Source: 2004 AACS.

R 325.22124
Source: 2004 AACS.

R 325.22125
Source: 2004 AACS.

R 325.22126
Source: 2004 AACS.

R 325.22127
Source: 2004 AACS.

PART 3. AMBULANCE OPERATIONS

R 325.22131
Source: 2004 AACS.

R325.22132
Source: 2004 AACS.

R 325.22133
Source: 2004 AACS.

R 325.22134
Source: 2004 AACS.

R 325.22135
Source: 2004 AACS.

R 325.22136
Source: 2004 AACS.

R 325.22137
Source: 2004 AACS.

R 325.22138
Source: 2004 AACS.

PART 4. NONTRANSPORT PREHOSPITAL LIFE SUPPORT OPERATIONS

R 325.22141
Source: 2004 AACS.

R 325.22142
Source: 2004 AACS.

R 325.22143
Source: 2004 AACS.

R 325.22144
Source: 2004 AACS.

R 325.22145
Source: 2004 AACS.

R 325.22146
Source: 2004 AACS.

PART 5. AIRCRAFT TRANSPORT OPERATIONS

R 325.22151
Source: 2004 AACS.

R325.22152
Source: 2004 AACS.

R 325.22153
Source: 2004 AACS.

R 325.22154
Source: 2004 AACS.

R 325.22155
Source: 2004 AACS.

R 325.22156
Source: 2004 AACS.

PART 6. MEDICAL FIRST RESPONSE SERVICES

R 325.22161
Source: 2004 AACS.

R 325.22162
Source: 2004 AACS.

R 325.22163
Source: 2004 AACS.

R 325.22164
Source: 2004 AACS.

R 325.22165
Source: 2004 AACS.

R 325.22166
Source: 2004 AACS.

PART 7. AMBULANCE OPERATION UPGRADE LICENSE

R 325.22171
Source: 2004 AACS.

R 325.22172
Source: 2004 AACS.

R 325.22173
Source: 2004 AACS.

R 325.22174

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R 325.22175
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R 325.22176
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R 325.22177
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PART 8. LIFE SUPPORT VEHICLES

R 325.22181
Source: 2004 AACS.

R 325.22182
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R 325.22183
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R 325.22184
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R325.22185
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R 325.22189
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R 325.22191
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PART 9. COMMUNICATIONS REQUIREMENTS

R 325.22192
Source: 2004 AACS.

R 325.22193
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R 325.22195
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PART 10. MEDICAL CONTROL AUTHORITY

R 325.22201
Source: 2004 AACS.

R 325.22202
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R 325.22205
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R 325.22206
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R 325.22207
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R 325.22208
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R 325.22209
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R 325.22210
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R 325.22211
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R 325.22212
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R 325.22213
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R 325.22214
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R 325.22215
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R 325.22216
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R 325.22217
Source: 2004 AACS.

DEPARTMENT OF COMMUNITY HEALTH

DIRECTOR'S OFFICE

EMERGENCY MEDICAL SERVICES PERSONNEL LICENSING

R 325.22301
Source: 2004 AACS.

R 325.22302
Source: 2004 AACS.

PART 2. EMERGENCY MEDICAL SERVICES PERSONNEL LICENSING

R 325.22311
Source: 2004 AACS.

R 325.22312
Source: 2004 AACS.

R 325.22313
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R 325.22314
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R 325.22315
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R 325.22316
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PART 3. CONTINUING EDUCATION REQUIREMENTS

R 325.22321
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R 325.22323
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R 325.22324
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R 325.22325
Source: 2004 AACS.

R 325.22326
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R 325.22327
Source: 2004 AACS.

PART 4. INSTRUCTOR-COORDINATORS

R 325.22331
Source: 2004 AACS.

R 325.22332
Source: 2004 AACS.

R 325.22333
Source: 2004 AACS.

R 325.22334
Source: 2004 AACS.

R 325.22335
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R 325.22337
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R 325.22338
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PART 5. EDUCATION PROGRAM REQUIREMENTS

R 325.22339
Source: 2004 AACS.

R 325.22340
Source: 2004 AACS.

R 325.22341
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R 325.22342
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R 325.22343
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R 325.22344
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R 325.22345
Source: 2004 AACS.

PART 6. HEARING PROCEDURES

R 325.22346 Rescinded.
History: 2004 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 325.22347 Rescinded.
History: 2004 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 325.22348 Rescinded.
History: 2004 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 325.22349 Rescinded.
History: 2004 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 325.22350 Rescinded.
History: 2004 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 325.22351 Rescinded.
History: 2004 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 325.22352 Rescinded.
History: 2004 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 325.22353 Rescinded.
History: 2004 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 325.22354 Rescinded.
History: 2004 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 325.22355 Rescinded.
History: 2004 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 325.22356 Rescinded.
History: 2004 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 325.22357 Rescinded.
History: 2004 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 325.22358 Rescinded.
History: 2004 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 325.22359 Rescinded.
History: 2004 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 325.22360 Rescinded.
History: 2004 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 325.22361 Rescinded.
History: 2004 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 325.22362 Rescinded.
History: 2004 AACS; 2015 MR 1, Eff. Jan. 15, 2015.

R 325.22363
Source: 2004 AACS.

R 325.23101
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R 325.23102
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R 325.23105
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R 325.23106
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R 325.23107
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PART 2. EMERGENCY MEDICAL SERVICES SYSTEM

R 325.23201
Source: 2004 AACS.

R 325.23202
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PART 3. AMBULANCE PERSONNEL, AMBULANCE ATTENDANTS

R 325.23301
Source: 2004 AACS.

R 325.23302
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R 325.23303
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R 325.23304
Source: 2004 AACS.

PART 4. ADVANCED EMERGENCY MEDICAL TECHNICIANS, EMERGENCY MEDICAL TECHNICIAN SPECIALISTS, EMERGENCY MEDICAL TECHNICIANS

R 325.23401
Source: 2004 AACS.

R 325.23402
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R 325.23403
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R 325.23404
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R 325.23405
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R 325.23406
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R 325.23407

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PART 5. INSTRUCTOR-COORDINATORS

R 325.23501
Source: 2004 AACS.

R 325.23502
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R 325.23503
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PART 6. TRAINING PROGRAM REQUIREMENTS

R 325.23601
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PART 7. MEDICAL CONTROL

R 325.23701
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PART 8. ADVANCED AND LIMITED ADVANCED MOBILE EMERGENCY CARE SERVICES

R 325.23801
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R 325.23802
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R 325.23803
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R 325.23901
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PART 10. VEHICLE STANDARDS

R 325.24001
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R 325.24101
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R 325.24102
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R 325.24103
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R 325.24111
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R 325.24118
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DEPARTMENT OF AGRICULTURE

BUREAU OF ENVIRONMENTAL AND OCCUPATIONAL HEALTH

FOOD SERVICE SANITATION

PART 1. GENERAL PROVISIONS

R 325.25101
Source: 2012 AACS.

R 325.25102
Source: 2012 AACS.

R 325.25103
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R 325.25104
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R 325.25105
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R 325.25106
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PART 4. DEPARTMENT AND LOCAL HEALTH DEPARTMENT PROGRAM REQUIREMENTS, PROCEDURES, AND EVALUATIONS

R 325.25401
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R 325.25402
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R 325.25403
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R 325.25404
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R 325.25501
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PART 6. TEMPORARY AND MOBILE FOOD SERVICE ESTABLISHMENTS

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R 325.25602
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PART 7. PLAN SUBMITTAL AND REVIEW

R 325.25701
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R 325.25702
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R 325.25703
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R 325.25704
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R 325.25705
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R 325.25708
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PART 8. LICENSING AND ENFORCEMENT

R 325.25801
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R 325.25901
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R 325.25910
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R 325.26003
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R 325.26004
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R 325.26006
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R 325.26007
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DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

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R 325.35001
Source: 2013 AACS.

R 325.35002
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R 325.35002a
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R 325.35003
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R 325.35004
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R 325.35005
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R 325.35006
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R 325.35006a
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R 325.35007
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R 325.35008
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R 325.35009
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R 325.35010
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R 325.35011
Source: 2013 AACS.

MEDICAL SERVICES AND FIRST AID—GENERAL INDUSTRY

R 325.47201
Source: 2014 AACS.

DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS

DIRECTOR'S OFFICE

OCCUPATIONAL HEALTH STANDARDS

PART 474. SANITATION

R 325.47401. Scope.
Rule 47401. (1) The rules in this part apply to permanent places of employment.
History: 2015 MR 4, Eff. March 3, 2015.

R 325.47403. Adopted and referenced rules.
Rule 47403. (1) The United States (U.S.) Environmental Protection Agency's National Primary Drinking Water Regulations 40 C.F.R. Part 141 are adopted in these rules. The regulations are available from the U.S. Government Printing Office Website at: www.gpo.gov, at no cost as of the date of adoption of these rules.
(2) The standards adopted in this rule are available for inspection at the Department of Licensing and Regulatory Affairs, MIOSHA Regulatory Services Section, 7150 Harris Drive, Lansing, Michigan, 48909-8143.
(3) Copies of the standard adopted in this rule may be obtained from the publisher or may be obtained from the Department of Licensing and Regulatory Affairs, MIOSHA Regulatory Services Section, 7150 Harris Drive, Lansing, Michigan, 48909-8143, at the cost charged in this rule, plus $20.00 for shipping and handling.
(4) The following Michigan Occupational Safety and Health Standards are referenced in these rules. Up to 5 copies of these standards may be obtained at no charge from the Michigan Department of Licensing and Regulatory Affairs, MIOSHA Regulatory Services Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143 or via the internet at web-site: www.michigan.gov/mioshastandards. For quantities greater than 5, the cost, as of the time of adoption of these rules, is 4 cents per page.
(a) Occupational Health Standard Part 301 ‘Air Contaminants for General Industry,’ R 325.51101 to R 325.51108.
(b) Occupational Health Standard OH Part 305 ‘Asbestos in General Industry,’ R 325.51311 to R 325.51312.
History: 2015 MR 4, Eff. March 3, 2015.

R 325.47405. Definitions.
Rule 47405. (1) "Nonwater carriage toilet facility" means a toilet facility not connected to a sewer.
(2) "Number of employees" means, unless otherwise specified, the maximum number of employees present at any 1 time on a regular shift.
(3) "Personal service room" means a room used for activities not directly connected with the production or service function performed by the establishment. Such activities include, but are not limited to, first aid, medical services, dressing, showering, toilet use, washing, and eating.
(4) "Potable water" means water that meets the standards for drinking purposes by the state or local authority having jurisdiction, or water that meets the quality standards prescribed by the U.S. Environmental Protection Agency's National Primary Drinking Water Regulations 40 C.F.R. 141, as referenced in R 325.47403.
(5) "Toilet facility" means a fixture maintained within a toilet room for the purpose of defecation or urination, or both.
(6) "Toilet room" means a room maintained within or on the premises of any place of employment, containing toilet facilities for use by employees.
(7) "Toxic material" means a material in concentration or amount which exceeds the applicable limit established by a standard, such as Occupational Health Standard Part 301 ‘Air Contaminants for General Industry,’ and Occupational Health Standard Part 305 ‘Asbestos in General Industry,’ as referenced in R 325.47403, or, in the absence of an applicable standard, that is of such toxicity so as to constitute a recognized hazard that is causing or is likely to cause death or serious physical harm.
(8) "Urinal" means a toilet facility maintained within a toilet room for the sole purpose of urination.
(9) "Water closet" means a toilet facility maintained within a toilet room for the purpose of both defecation and urination and which is flushed with water.
(10) "Wet process" means any process or operation in a workroom which normally results in surfaces upon which employees may walk or stand becoming wet.
History: 2015 MR 4, Eff. March 3, 2015.

R 325.47407. Housekeeping.

Rule 47407. (1) All places of employment shall be kept clean to the extent that the nature of the work allows.
(2) The floor of every workroom shall be maintained, so far as practicable, in a dry condition. Where wet processes are used, drainage shall be maintained and false floors, platforms, mats, or other dry standing places shall be provided, where practicable, or appropriate waterproof footgear shall be provided.
(3) To facilitate cleaning, every floor, working place, and passageway shall be kept free from protruding nails, splinters, loose boards, and unnecessary holes and openings.
History: 2015 MR 4, Eff. March 3, 2015.

R 325.47408. Waste disposal.
Rule 47408. (1) Any receptacle used for putrescible solid or liquid waste or refuse shall be so constructed that it does not leak and may be thoroughly cleaned and maintained in a sanitary condition. Such a receptacle shall be equipped with a solid tight-fitting cover, unless it can be maintained in a sanitary condition without a cover. The requirement in this subrule does not prohibit the use of receptacles which are designed to permit the maintenance of a sanitary condition without regard to the aforementioned requirements.
(2) All sweepings, solid or liquid wastes, refuse, and garbage shall be removed in such a manner as to avoid creating a menace to health and as often as necessary or appropriate to maintain the place of employment in a sanitary condition.
History: 2015 MR 4, Eff. March 3, 2015.

R 325.47409. Vermin control.
Rule 47409. Every enclosed workplace shall be so constructed, equipped, and maintained, so far as reasonably practicable, as to prevent the entrance or harborage of rodents, insects, and other vermin. A continuing and effective extermination program shall be instituted where their presence is detected.
History: 2015 MR 4, Eff. March 3, 2015.

R 325.47410. Water supply.
Rule 47410. (1) The employer shall ensure that potable water is provided in all places of employment, for drinking, washing of the person, cooking, washing of foods, washing of cooking or eating utensils, washing of food preparation or processing premises, and personal service rooms.
(2) Portable drinking water dispensers shall be designed, constructed, and serviced so that sanitary conditions are maintained, are be capable of being closed, and are equipped with a tap.
(3) Open containers such as barrels, pails, or tanks for drinking water from which the water must be dipped or poured, whether or not they are fitted with a cover, are prohibited.
(4) A common drinking cup and other common utensils are prohibited.
History: 2015 MR 4, Eff. March 3, 2015.

R 325.47411. Nonpotable water.
Rule 47411. (1) The employer shall ensure that outlets for nonpotable water, such as water for industrial or firefighting purposes, are posted or otherwise marked in a manner that will indicate clearly that the water is unsafe and is not to be used for drinking, washing of the person, cooking, washing of food, washing of cooking or eating utensils, washing of food preparation or processing premises, or personal service rooms, or for washing clothes.
(2) Construction of nonpotable water systems or systems carrying any other nonpotable substance shall be such as to prevent backflow or backsiphonage into a potable water system.
(3) Nonpotable water shall not be used for washing any portion of the person, cooking or eating utensils, or clothing. Nonpotable water may be used for cleaning work premises, other than food processing and preparation premises and personal service rooms, provided that this nonpotable water does not contain concentrations of chemicals, fecal coliform, or other substances which could create unsanitary conditions or be harmful to employees.
History: 2015 MR 4, Eff. March 3, 2015.

R 325.47414. Toilet facilities.
Rule 47414. (1) Except as otherwise indicated in this rule, toilet facilities, in toilet rooms separate for each sex, shall be provided in all places of employment in accordance with Table 1 of this rule. The number of facilities to be provided for each sex shall be based on the number of employees of that sex for whom the facilities are furnished. Where toilet rooms will be occupied by no more than 1 person at a time, can be locked from the inside, and contain at least 1 water closet, separate toilet rooms for each sex need not be provided. Where such single-occupancy rooms have more than 1 toilet facility, only 1 such facility in each toilet room shall be counted for the purpose of Table 1.

TABLE 1 TOILET FACILITIES	
Number of employees	Minimum number of water closets[1]
1 to 15	1
16 to 35	2
36 to 55	3
56 to 80	4
81 to 110	5
111 to 150	6
Over 150	[2]
Footnote[1]: Where toilet facilities will not be used by women, urinals may be provided instead of water closets, except that the number of water closets in such cases shall not be reduced to less than 2/3 of the minimum specified.	
Footnote[2]: 1 additional fixture for each additional 40 employees	

(2) The requirements of subrule (1) of this rule do not apply to mobile crews or to normally unattended work locations so long as employees working at these locations have transportation immediately available to nearby toilet facilities which meet the requirements of subrules (1) and (3) of this rule.
(3) The sewage disposal method shall not endanger the health of employees.
History: 2015 MR 4, Eff. March 3, 2015.

R 325.47415. Construction of toilet rooms.
Rule 47415. Each water closet shall occupy a separate compartment with a door and walls or partitions between fixtures sufficiently high to assure privacy.
History: 2015 MR 4, Eff. March 3, 2015.

R 325.47416. Washing facilities.
Rule 47416. The employer shall ensure that washing facilities are maintained in a sanitary condition.
History: 2015 MR 4, Eff. March 3, 2015.

R 325.47417. Lavatories.
Rule 47417. (1) The employer shall ensure that lavatories are available in all places of employment.
(2) The requirements of this rule do not apply to mobile crews or to normally unattended work locations if employees working at these locations have transportation readily available to nearby washing facilities which meet the requirements of subrules (1), (3), (4), and (5) of this rule.
(3) Each lavatory shall be provided with hot and cold running water, or tepid running water.
(4) Hand soap or similar cleansing agents shall be provided.
(5) Individual hand towels or sections thereof, of cloth or paper, air blowers, or clean individual sections of continuous cloth toweling, convenient to the lavatories, shall be provided.
History: 2015 MR 4, Eff. March 3, 2015.

R 325.47418. Showers.
Rule 47418. (1) Whenever showers are required by a particular standard, the employer shall ensure that the showers are in accordance with these rules.
(2) One shower shall be provided for each 10 employees of each sex, or numerical fraction thereof, who are required to shower during the same shift.

(3) Body soap or other appropriate cleansing agents convenient to the showers shall be provided as specified in R 325.47417.
(4) Showers shall be provided with hot and cold water feeding a common discharge line.
(5) Employees who use showers shall be provided with individual clean towels.
History: 2015 MR 4, Eff. March 3, 2015.

R 325.47419. Change rooms.
Rule 47419. Whenever employees are required by a particular standard to wear protective clothing because of the possibility of contamination with toxic materials, the employer shall ensure that change rooms equipped with storage facilities for street clothes and separate storage facilities for the protective clothing are provided.
History: 2015 MR 4, Eff. March 3, 2015.

R 325.47420. Clothes drying facilities.
Rule 47420. Where working clothes are provided by the employer and become wet or are washed between shifts, provision shall be made to ensure that such clothing is dry before reuse.
History: 2015 MR 4, Eff. March 3, 2015.

R 325.47424. Consumption of food and beverages on the premises.
Rule 47424. (1) This rule applies only where employees are permitted to consume food or beverages, or both, on the premises.
(2) Eating and drinking areas. No employee shall be allowed to consume food or beverages in a toilet room nor in any area exposed to a toxic material.
(3) Waste disposal containers. Receptacles constructed of smooth, corrosion resistant, easily cleanable, or disposable materials, shall be provided and used for the disposal of waste food. The number, size, and location of such receptacles shall encourage their use and not result in overfilling. They shall be emptied not less frequently than once each working day, unless unused, and shall be maintained in a clean and sanitary condition. Receptacles shall be provided with a solid tight-fitting cover unless sanitary conditions can be maintained without use of a cover.
(4) Food or beverages shall not be stored in toilet rooms or in an area exposed to a toxic material.
History: 2015 MR 4, Eff. March 3, 2015.

R 325.47425. Food handling.
Rule 47425. All employee food service facilities and operations shall be carried out in accordance with sound hygienic principles. In all places of employment where all or part of the food service is provided, the food dispensed shall be wholesome, free from spoilage, and shall be processed, prepared, handled, and stored in such a manner as to be protected against contamination.
History: 2015 MR 4, Eff. March 3, 2015.

ILLUMINATION

R 325.47801
Source: 2013 AACS.

EXTINGUISHING SYSTEMS

R 325.48001
Source: 2005 AACS.

METHYLENEDIANILINE (MDA)

R 325.50051 Scope and application.
Rule 1. (1) These rules apply to all occupational exposures to methylenedianiline (MDA), chemical abstracts service registry no. 101-77-9, except as provided in subrules (2) to (6) of this rule. This application includes construction, alteration, repair, maintenance, and renovation activities that involve MDA. These rules also apply to the transportation, disposal, storage, containment, and spill cleanup of MDA at construction sites.

(2) Except as provided in subrule (7) of this rule and in R 325.50056c, these rules do not apply to the processing, use, and handling of products that contain MDA if initial monitoring indicates that the product is not capable of releasing MDA in excess of the action level under the expected conditions of processing, use, and handling that will cause the greatest possible release and if dermal exposure to MDA, as defined in R 325.50052(6), cannot occur.
(3) Except as provided in subrule (7) of this rule, these rules do not apply to the processing, use, and handling of products that contain MDA if objective data are reasonably relied upon that demonstrate that the product is not capable of releasing MDA under the expected conditions of processing, use, and handling which will cause the greatest possible release and if dermal exposure to MDA cannot occur.
(4) Except for the requirements of R 325.50054 and the requirements of Occupational Health Standard Part 430 "Hazard Communication" as referenced in R 325.50051a, these rules do not apply to the storage, transportation, distribution, or sale of MDA in intact containers that are sealed in a manner that contains the MDA dusts, vapors, or liquids.
(5) Except as provided in subrule (7) of this rule, these rules do not apply to materials in any form that contain less than 0.1% MDA by weight or volume.
(6) Except as provided in subrule (7) of this rule, these rules do not apply to finished articles that contain MDA, as defined in R 325.50052(10).
(7) Where products that contain MDA are exempted pursuant to the provisions of subrules (2) to (6) of this rule, an employer shall maintain records of the initial monitoring results or objective data supporting that exemption and the basis for the employer's reliance on the data, as provided in the recordkeeping provisions of R 325.50072 to R 325.50072g.

History: 1993 AACS; 2015 MR 7, Eff. April 14, 2015.

R 325.50051a Referenced standards.
Rule 1a. (1) The following Michigan occupational safety and health standards are referenced in these rules. Up to 5 copies of these standards may be obtained at no charge from the Michigan Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan 48909-8143, or via the internet at website: www.michigan.gov/mioshastandards. For quantities greater than 5, the cost, at the time of adoption of these rules, is 4 cents per page.
(a) Construction Safety Standard Part 6 "Personal Protective Equipment," R 408.40601 to R 408.40641.
(b) Construction Safety Standard Part 18 "Fire Prevention and Prevention," R 408.41801 to R 408.41884.
(c) General Industry Safety Standard Part 6 "Fire Exits," R 408.10601 to R 408.10697.
(d) General Industry Safety Standard Part 33 "Personal Protective Equipment," R 408.13301 to R 408.13398.
(e) Occupational Health Standard Part 430 "Hazard Communication," R 325.77001 to R 325.77003.
(f) Occupational Health Standard Part 451 "Respiratory Protection," R 325.60051 to R 325.60052.
(g) Occupational Health Standard Part 470 "Employee Medical Records and Trade Secrets," R 325.3451 to R 325.3476.
(h) Occupational Health Standard Part 474 "Sanitation," Rule R 325.47401 to R 325.47425.
(2) The appendices to these rules are informational only and are not intended to create any additional obligations or requirements not otherwise imposed by these rules or to detract from any established obligations or requirements.
History: 2015 MR 7, Eff. April 14, 2015.

R 325.50052 Definitions.
Rule 2. (1) ""Act" means Michigan Occupational Safety and Health Act (MIOSHA) 1974, PA 154, MCL 408.1001 to 408.1094.
(2) "Action level" means a concentration of airborne MDA of 5 parts MDA per billion parts of air (5 ppb) as an 8-hour, time-weighted average.
(3) "Authorized person" means any person who is specifically authorized by an employer to enter a regulated area, or any person who enters a regulated area as a designated representative of employees, for the purpose of exercising the right to observe monitoring and measuring procedures described in R 325.50073 or any other person who is authorized by the act or the administrative rules issued under the act.
(4) "Container" means any of the following, but does not include a pipe or piping systems:
(a) A barrel.
(b) A bottle.
(c) A can.
(d) A cylinder.
(e) A drum.

(f) A reaction vessel.
(g) A storage tank.
(h) Commercial packaging.
(5) "Decontamination area" means a work area which is outside of, but as near as practical to, a regulated area, which consists of a storage area, a wash area, and a clean change area, and which is used for the decontamination of workers, materials, and equipment that are contaminated with MDA.
(6) "Dermal exposure to MDA" means any employee exposure that involves skin contact with either of the following non-airborne forms of MDA:
(a) Liquid, powdered, granular, or flaked mixtures that contain MDA in concentrations greater than 0.1% by weight or volume.
(b) Materials, other than finished articles, that contain MDA in concentrations greater than 0.1% by weight or volume.
(7) "Director" means the director of the Michigan department of licensing and regulatory affairs, or his or her designee.
(8) "Emergency" means an occurrence, such as an equipment failure, a rupture of containers, or the failure of control equipment, that results in an unexpected and potentially hazardous release of MDA.
(9) "Employee exposure" means exposure to MDA that would occur if the employees were not using respirators or protective work clothing and equipment.
(10) "Finished article containing MDA" means a manufactured item for which all of the following provisions apply:
(a) The item is formed to a specific shape or design during manufacture.
(b) The item has an end use function or functions that are dependent, in whole or part, upon the item's shape or design.
(c) If applicable, the item is an item that is fully cured by having been subjected to the conditions of time and temperature necessary to complete the desired chemical reaction.
(11) "Historical monitoring data" means monitoring data for construction work that meet all of the following conditions:
(a) The data upon which judgments are based are scientifically sound and are collected using methods that are sufficiently accurate and precise.
(b) The processes and work practices that were in use when the historical monitoring data were obtained are essentially the same as the processes and work practices to be used during the job for which initial monitoring will not be performed.
(c) The characteristics of the MDA-containing material being handled when the historical monitoring data were obtained are the same as the characteristics of the MDA-containing material on the job for which initial monitoring will not be performed.
(d) The environmental conditions that were prevailing when the historical monitoring data were obtained are the same as the environmental conditions on the job for which initial monitoring will not be performed.
(e) Other data that are relevant to the operations, materials, processing, or employee exposures covered by the exemptions from monitoring specified in R 325.50056 are substantially similar. The data shall be scientifically sound, the characteristics of the MDA-containing material shall be similar, and the environmental conditions shall be comparable.
(12) "Methylenedianiline" or "MDA" means the chemical, 4,4'-diaminodiphenylmethane, chemical abstract service registry number 101-77-9, in the form of a vapor, liquid, or solid. This definition also includes the salts of MDA.
(13) "Regulated areas" means areas in a workplace where airborne concentrations of MDA exceed, or can reasonably be expected to exceed, the permissible exposure limits or where dermal exposure to MDA can occur.
(14) "STEL" means short-term exposure limit as determined by a 15-minute sample period.
History: 1993 AACS; 1999 AACS; 2015 MR 7, Eff. April 14, 2015.

R 325.50053
Source: 1993 AACS.

R 325.50053a Communication among employers on construction worksites.
Rule 3a. On multi-employer worksites, an employer performing work involving the application of MDA or materials containing MDA, for which establishment of 1 or more regulated areas is required, shall inform other employers on the site of the nature of the employer's work with MDA, and of the existence of, and requirements pertaining to, regulated areas.
History: 2015 MR 7, Eff. April 14, 2015.

R 325.50054 Emergency conditions; written plan; alerts.
Rule 4. (1) An employer shall develop a written plan to effectively handle emergency situations for each workplace where there is a possibility of an emergency. The plan for a construction site shall identify emergency escape routes for

employees and be in place before construction operations begin. An employer shall implement appropriate portions of the plan in the event of an emergency. The emergency plan shall provide for all of the following:
(a) Plans and procedures to equip employees who are engaged in correcting emergency conditions with the appropriate personal protective equipment and clothing as required in R 325.50060 to R 325.50061c until the emergency is abated.
(b) Procedures for alerting and evacuating affected employees.
(c) Procedures for fire protection and prevention shall comply with the requirements of Construction Safety Standard Part 18 "Fire Prevention and Prevention," and General Industry Safety Standard Part 6 "Fire Exits," as referenced in R 325.50051a.
(2) If there is a possibility of employee exposure to MDA due to an emergency, then an employer shall develop means to promptly alert employees of the possibility of direct exposure. If an emergency occurs, an employer shall immediately evacuate affected employees who are not engaged in correcting emergency conditions. An employer shall develop and implement means for alerting other employees who may be exposed as a result of the emergency.
History: 1993 AACS; 1999 AACS; 2015 MR 7, Eff. April 14, 2015.

EXPOSURE MONITORING

R 325.50055 Exposure monitoring generally.
Rule 5. (1) Determinations of employee exposure shall be made from breathing zone air samples that are representative of each employee's exposure to airborne MDA over an 8-hour period. Determinations of employee exposure to the STEL shall be made from breathing zone air samples collected over a 15-minute sampling period.
(2) Representative employee exposure shall be determined on the basis of 1 or more samples that represent full-shift exposure for each shift, for each job classification, and in each work area where exposure to MDA may occur.
(3) If an employer can document that exposure levels are equivalent for similar operations in different work shifts, the employer shall only be required to determine representative employee exposure for that operation during 1 shift.
(4) Monitoring shall be accurate, to a 95% confidence level, to within plus or minus 25% of true value for airborne concentrations of MDA.
History: 1993 AACS; 2015 MR 7, Eff. April 14, 2015.

R 325.50056 Initial monitoring.
Rule 6. (1) Each employer who has a workplace or work operation that is subject to these rules shall perform initial monitoring to accurately determine an employee's exposure to airborne concentrations of MDA.
(2) Construction employers are not required to perform initial monitoring if either of the following provisions apply:
(a) An employer can demonstrate, using objective data, that the MDA-containing product or material being handled cannot cause exposure above the action level even under a worst-case release condition.
(b) An employer has historical monitoring data or other data which demonstrate that exposures on a particular job will be below the action level.
History: 1993 AACS; 2015 MR 7, Eff. April 14, 2015.

R 325.50056a Periodic monitoring and monitoring frequency.
Rule 6a. (1) If the monitoring required by the provisions of R 325.50056 shows an employee's exposure to be at or above the action level, but at or below the PELs, an employer shall repeat the representative monitoring for the employee at least once every 6 months.
(2) If the monitoring required by the provisions of R 325.50056 shows an employee's exposure to be above the PELs, an employer shall repeat the representative monitoring for the employee at least once every 3 months.
(3) An employer may alter the monitoring schedule from once every 3 months to once every 6 months for any employee for whom 2 consecutive measurements, taken not less than 7 days apart, indicate that the employee exposure has decreased to or below the TWA PEL, but at or above the action level.
(4) A construction employer who conducts MDA operations within a regulated area may forego periodic monitoring if all employees wear supplied-air respirators while working in the regulated area.
History: 2015 MR 7, Eff. April 14, 2015.

R 325.50056b Termination of monitoring.
Rule 6b. Both of the following provisions apply to the termination of monitoring:
(a) If the initial monitoring required by the provisions of R 325.50056 shows that an employee's exposure is below the action level, the employer may discontinue the monitoring for that employee, except as otherwise required by the provisions of R 325.50056c.

(b) If the periodic monitoring required by the provisions of R 325.50056a (1) and (2), shows that an employee's exposures, as indicated by not less than 2 consecutive measurements taken not less than 7 days apart, are below the action level, the employer may discontinue the monitoring for that employee, except as otherwise required by the provisions of R 325.50056c.
History: 2015 MR 7, Eff. April 14, 2015.

R 325.50056c Additional monitoring.
Rule 6c. An employer shall perform the exposure monitoring required by the provisions of R 325.50056 to R 325.50056a(3) when there has been a change in the production process, chemicals present, control equipment, personnel, or work practices that may result in new or additional exposures to MDA or when the employer has any reason to suspect a change that may result in new or additional exposures.
History: 2015 MR 7, Eff. April 14, 2015.

R 325.50056d Employee notification of monitoring results for general industry employers.
Rule 6d. (1) An employer shall, within 15 working days after the receipt of the results of any monitoring performed pursuant to these rules, notify each employee of these results, in writing, either individually or by posting of results in an appropriate location that is accessible to affected employees.
(2) The written notification required by subrule (1) of this rule shall contain the corrective action being taken by the employer to reduce the employee exposure to or below the PELs, wherever the PELs are exceeded.
History: 2015 MR 7, Eff. April 14, 2015.

R 325.50056e Employee notification of monitoring results for construction employers.
Rule 6e. (1) The employer shall, as soon as possible but no later than 5 working days after the receipt of the results of any monitoring performed pursuant to these rules, notify each affected employee of these results either individually in writing or by posting the results in an appropriate location that is accessible to employees.
(2) The written notification required by subrule (1) of this rule shall contain the corrective action being taken by the employer or any other protective measures which have been implemented to reduce the employee exposure to or below the PELs, wherever the PELs are exceeded.
History: 2015 MR 7, Eff. April 14, 2015.

R 325.50057 Visual monitoring.
Rule 7. An employer shall make routine inspections of employee hands, faces, and forearms that may have been exposed to MDA. Other potential dermal exposures that are reported by the employee shall be referred to the appropriate medical personnel for observation. If an employer determines that an employee has been exposed to MDA, the employer shall do all of the following:
(a) Determine the source of exposure.
(b) Implement protective measures to correct the hazard.
(c) Maintain records of the corrective actions in accordance with the provisions of R 325.50072 to R 325.50072g.
History: 1993 AACS; 1999 AACS; 2015 MR 7, Eff. April 14, 2015.

R 325.50058 Regulated areas.
Rule 8. (1) An employer shall establish a regulated area where either of the following conditions exists:
(a) Airborne concentrations of MDA exceed, or can reasonably be expected to exceed, the permissible exposure limits.
(b) Employees are subject to dermal exposure to MDA.
(2) Regulated areas shall be demarcated from the rest of the workplace in a manner that minimizes the number of persons that might be exposed.
(3) Access to regulated areas shall be limited to authorized persons.
(4) Each person who enters a regulated area shall be supplied with, and required to use, the appropriate personal protective clothing and equipment in accordance with the provisions of R 325.50060 to R 325.50061c.
(5) An employer shall ensure that employees do not eat, drink, smoke, chew tobacco or gum, or apply cosmetics in a regulated area.
History: 1993 AACS; 2015 MR 7, Eff. April 14, 2015.

METHODS OF COMPLIANCE

R 325.50059 Engineering controls and work practices for general industry employers.

Rule 9. (1) An employer shall institute engineering controls and work practices to reduce and maintain employee exposure to MDA at or below the permissible exposure limits, except to the extent that the employer can establish that these controls are not feasible or where the provisions of subrule (2) of this rule or R 325.50060 apply.
(2) If the feasible engineering controls and work practices that can be instituted are not sufficient to reduce employee exposure to or below the PELs, an employer shall use the controls and practices to reduce employee exposure to the lowest levels achievable by the controls and practices and shall supplement them by the use of respiratory protection devices that are in compliance with the requirements of R 325.50060 to R 325.50060b.
History: 1993 AACS; 2015 MR 7, Eff. April 14, 2015.

R 325.50059a Engineering controls and work practices and respirators for construction employers.
Rule 9a. (1) An employer shall use 1 or any combination of the following control methods to achieve compliance with the permissible exposure limits as prescribed in R 325.50053:
(a) Local exhaust ventilation equipped with HEPA filter dust collection systems.
(b) General ventilation systems.
(c) Use of work practices.
(d) Other engineering controls such as isolation and enclosure that the director can show to be feasible.
(2) If the feasible engineering controls and work practices that can be instituted are not sufficient to reduce employee exposure to or below the PELs, an employer shall use the controls and practices to reduce employee exposure to the lowest levels achievable by the controls and practices and shall supplement them by the use of respiratory protection devices that are in compliance with the requirements of R 325.50060 to R 325.50060b.
(3) Both respiratory protection and feasible engineering and work practice controls shall be used to reduce worker exposure to or below the PEL when workers are engaged in the spray application of MDA materials.
(4) Compressed air shall not be used to remove MDA material unless it is used in conjunction with an enclosed ventilation system that is designed to capture the dust cloud.
History: 2015 MR 7, Eff. April 14, 2015.

R 325.50059b Compliance program.
Rule 9b. (1) An employer shall establish and implement a written compliance program to reduce employee exposure to or below the PELs by means of engineering and work practice controls, as required by R 325.50059 and R 325.50059a, and through the use of respiratory protection where permitted by these rules. The program shall include a schedule for periodic maintenance, such as leak detection, and shall include a written plan for emergency situations as specified in the provisions of R 325.50054.
(2) Upon request, the written program shall be furnished, for examination and copying, to the director, affected employees, and designated employee representatives. An employer shall review and, as necessary, update the written program at least once every 12 months to make certain the program reflects the current status of compliance activities.
(3) An employer shall not use employee rotation as a means of complying with the PELs specified in R 325.50053.
History: 2015 MR 7, Eff. April 14, 2015.

RESPIRATORY PROTECTION

R 325.50060 Respiratory protection.
Rule 10. For employees who use respirators required by these rules, an employer shall select and provide each employee an appropriate respirator that complies with the requirements of these rules. An employer shall ensure that employees use respirators during all of the following:
(a) Periods necessary to install or implement feasible engineering and work practice controls.
(b) Work operations for which an employer establishes that engineering and work practice controls are not feasible, such as maintenance and repair activities and spray-application processes
(c) Work operations for which feasible engineering and work practice controls are not yet sufficient to reduce exposure to or below the PEL.
(d) Emergencies.
History: 1993 AACS; 1999 AACS; 2015 MR 7, Eff. April 14, 2015.

R 325.50060a Respirator program.
Rule 10a. An employer shall implement a respiratory protection program in accordance with Occupational Health Standard Part 451 “Respiratory Protection,” as referenced in R 325.50051a, which covers each employee required by these rules to use a respirator.

History: 2015 MR 7, Eff. April 14, 2015.

R 325.50060b Respirator selection.
Rule 10b. (1) An employer shall do all of the following:
(a) Select, and provide to employees, the appropriate respirators in accordance with Occupational Health Standard Part 451 "Respiratory Protection," specified in paragraph (d)(3)(i)(A) of 29 CFR 1910.134. as referenced in R 325.50051a,
(b) Provide HEPA filters for powered and non-powered air-purifying respirators.
(c) For escape, provide employees with 1 of the following respirator options:
(i) Any self-contained breathing apparatus with a full facepiece.
(ii) Hood operated in the positive-pressure.
(iii) Continuous-flow mode, or a full facepiece air-purifying respirator.
(d) Provide a combination HEPA filter and organic vapor canister or cartridge with air-purifying respirators when MDA is in liquid form or used as part of a process requiring heat.
(2) An employer shall give an employee who cannot use a negative-pressure respirator the option of using a positive-pressure respirator, or a supplied-air respirator operated in the continuous-flow or pressure-demand mode.
History: 2015 MR 7, Eff. April 14, 2015.

PROTECTIVE WORK CLOTHING AND EQUIPMENT

R 325.50061 Protective work clothing and equipment use.
Rule 11. (1) An employer shall provide, at no cost to the employee, and ensure that the employee uses, appropriate protective work clothing and equipment, such as any of the following:
(a) Aprons, coveralls, or other full-body work clothing.
(b) Gloves, head covers, and foot covers.
(c) Face shields and chemical goggles.
(d) Other appropriate protective equipment that is in compliance with the provisions of General Industry Safety Standard Part 33 "Personal Protective Equipment," and Construction Safety Standard Part 6 "Personal Protective Equipment," as referenced in R 325.50051a.
(2) An employer shall provide the appropriate protective work clothing and equipment listed in subrule (1) of this rule if any of the following conditions are present:
(a) The airborne concentration of MDA exceeds the PELs.
(b) An employee is subject to dermal exposure to MDA.
(c) Liquids that contain MDA can be splashed or sprayed into an employee's eyes.
History: 1993 AACS; 2015 MR 7, Eff. April 14, 2015.

R 325.50061a Removal and storage of protective work clothing and equipment.
Rule 11a. All of the following provisions pertain to the removal and storage of protective work clothing and equipment:
(a) At the end of an employee's work shift, an employer shall ensure that the employee removes MDA-contaminated protective work clothing and equipment, which is not routinely removed throughout the day, in change rooms that are provided in accordance with the provisions of R 325.50062 to R 325.50063b.
(b) An employer shall ensure that an employee, during his or her workshift, removes all other MDA-contaminated protective work clothing or equipment before leaving a regulated area.
(c) An employer shall ensure that an employee does not take MDA-contaminated work clothing or equipment out of the change room, except for an employee who is authorized to do so for the purpose of laundering, maintenance, or disposal.
(d) MDA-contaminated work clothing or equipment shall be placed and stored in closed containers that prevent the dispersion of MDA outside the container.
(e) Containers of MDA-contaminated protective work clothing or equipment that are to be taken out of change rooms or the workplace for cleaning, maintenance, or disposal shall bear labels that warn of the hazards of MDA.
History: 2015 MR 7, Eff. April 14, 2015.

R 325.50061b Cleaning and replacing protective work clothing and equipment.
Rule 11b. All of the following provisions pertain to cleaning and replacing protective work clothing and equipment:
(a) An employer shall provide employees with clean protective work clothing and equipment. An employer shall ensure that protective work clothing or equipment that is required by this rule is cleaned, laundered, repaired, or replaced at intervals appropriate to maintain its effectiveness.
(b) An employer shall prohibit the removal of MDA from protective work clothing or equipment by blowing, shaking, or any method that allows MDA to reenter the workplace.

(c) An employer shall ensure that laundering of MDA-contaminated clothing is done in a manner that prevents the release of MDA in the workplace.
(d) An employer who gives MDA-contaminated clothing to another person for laundering shall inform the person of the requirements that will prevent the release of MDA.
(e) An employer shall inform any person who launders or cleans protective clothing or equipment that is contaminated with MDA of the potentially harmful effects of exposure to MDA.
(f) MDA-contaminated clothing shall be transported in properly labeled, sealed, impermeable bags or containers.
History: 2015 MR 7, Eff. April 14, 2015.

R 325.50061c Visual examination for construction employers.
Rule 11c. (1) An employer shall ensure that employees' work clothing is examined periodically for rips or tears that may occur during performance of work.
(2) When rips or tears are detected, the protective equipment or clothing shall be repaired and replaced immediately.
History: 2015 MR 7, Eff. April 14, 2015.

HYGIENE FACILITIES AND PRACTICES

R 325.50062 Change rooms for general industry.
Rule 12. (1) This rule establishes hygiene facilities and practice requirements that are applicable to all general industry employers.
(2) An employer shall provide clean change rooms for employees who must wear protective clothing or who must use protective equipment because of their exposure to MDA.
(3) Change rooms shall be equipped with separate storage for protective clothing and equipment and for street clothes and the separate storage shall prevent MDA contamination of street clothes.
History: 1993 AACS; 2015 MR 7, Eff. April 14, 2015.

R 325.50062a Showers for general industry.
Rule 12a. (1) An employer shall ensure that employees shower at the end of a workshift if the employees work in areas where there is the potential for exposure above the action level that results from airborne MDA particulates or vapors.
(2) All of the following provisions pertain to showers and hygiene practices:
(a) Shower facilities that are required by this subrule shall be in compliance with the provisions of Occupational Health Standard Part 474 “Sanitation,” as referenced in R 325.50051a.
(b) An employer shall ensure that employees who are required to shower pursuant to the provisions of this subrule do not leave the workplace wearing any protective clothing or equipment worn during the workshift.
(c) Where dermal exposure to MDA occurs, an employer shall ensure that materials that are spilled or deposited on the skin are removed as soon as possible by methods that do not facilitate the dermal absorption of MDA.
History: 2015 MR 7, Eff. April 14, 2015.

R 325.50062b Lunch facilities for general industry.
Rule 12b. (1) If food or beverages are consumed at the worksite and employees are exposed to MDA at or above the PEL or are subject to dermal exposure to MDA, an employer shall provide a readily accessible lunch area.
(2) Lunch areas which are located within the workplace and in which there is the potential for airborne exposure to MDA at or above the PEL shall have a positive-pressure, temperature-controlled, filtered air supply.
(3) Lunch areas shall not be located in areas within the workplace where the potential for dermal exposure to MDA exists.
(4) An employer shall ensure that employees who have been subjected to dermal exposure to MDA or who have been exposed to MDA above the PEL wash their hands and faces with soap and water before eating, drinking, smoking, or applying cosmetics.
(5) An employer shall ensure that employees who are exposed to MDA do not enter lunch facilities with MDA-contaminated protective work clothing or equipment.
History: 2015 MR 7, Eff. April 14, 2015

R 325.50063 Hygiene facilities and practices for construction industry.
Rule 13. (1) This rule applies to the construction industry only.
(2) An employer shall comply with either of the following provisions:
(a) An employer shall provide decontamination areas for employees who are required to work in regulated areas or who are required to wear protective clothing pursuant to the provisions of R 325.50061(1).

(b) An employer may allow employees who are working in a small-scale, short-duration operation to clean or dispose of their protective clothing before leaving the area where the work was performed.
(3) An employer shall ensure that change areas are equipped with separate storage facilities for protective clothing and street clothing in accordance with the provisions of Occupational Health Standard Part 474 "Sanitation," as referenced in R 325.50051a.
(4) An equipment area shall be supplied with impermeable, labeled bags and containers for the containment and disposal of contaminated protective clothing and equipment.
History: 1993 AACS; 2015 MR 7, Eff. April 14, 2015.

R 325.50063a Showers for construction industry.
Rule 13a. (1) Where feasible, shower facilities shall be provided that are in compliance with the provisions of Occupational Health Standard Part 474 "Sanitation," as referenced in R 325.50051a, if the possibility of employee exposure to airborne levels of MDA in excess of the permissible exposure limit exists.
(2) Where dermal exposure to MDA occurs, an employer shall ensure that materials that are spilled or deposited on the skin are removed as soon as possible by methods that do not facilitate the dermal absorption of MDA.
History: 2015 MR 7, Eff. April 14, 2015.

R 325.50063b Lunch facilities for construction industry.
Rule 13b. (1) If food or beverages are consumed at the worksite and if employees are exposed to MDA, an employer shall provide a clean lunch area where MDA levels are below the action level and where dermal exposure to MDA cannot occur.
(2) An employer shall ensure that employees wash their hands and faces with soap and water before eating, drinking, smoking, or applying cosmetics.
(3) An employer shall ensure that employees do not enter lunch facilities with contaminated protective work clothing or equipment.
History: 2015 MR 7, Eff. April 14, 2015.

HAZARD COMMUNICATION

R 325.50064 Communication of hazards to employees.
Rule 14. (1) Chemical manufacturers, importers, distributors and employers shall comply with all requirements of Occupational Health Standard Part 430 "Hazard Communication," referenced in R 325.50051a, for MDA.
(2) In classifying the hazards of MDA a minimum of the following hazard classifications shall be addressed:
(a) Cancer.
(b) Liver effects.
(c) Skin sensitization.
(3) Employers shall include MDA in the hazard communication program established to comply with requirements of Occupational Health Standard Part 430 "Hazard Communication." Employers shall ensure that each employee has access to labels on containers of MDA and to safety data sheets, and is trained in accordance with the requirements of R 325.50064b and Occupational Health Standard Part 430 "Hazard Communication," as referenced in R 325.50051a.
History: 1993 AACS; 2015 MR 7, Eff. April 14, 2015.

R 325.50064a. Signs and labels.
Rule 14a. (1) Both of the following provisions pertain to signs and labels:
(a) An employer shall post and maintain legible signs that demarcate regulated areas and entrances or accessways to regulated areas that bear the following legend:

DANGER MDA MAY CAUSE CANCER CAUSES DAMAGE TO THE LIVER RESPIRATORY PROTECTION AND PROTECTIVE CLOTHING MAY BE REQUIRED IN THIS AREA AUTHORIZED PERSONNEL ONLY

(b) Prior to June 1, 2016, employers may use the following legend in lieu of that specified in subrule (1)(a) of this rule:

DANGER MDA MAY CAUSE CANCER LIVER TOXIN AUTHORIZED PERSONNEL ONLY RESPIRATORS AND PROTECTIVE CLOTHING MAY BE REQUIRED TO BE WORN IN THIS AREA

(2) An employer shall ensure that labels or other appropriate forms of warning are provided for containers of MDA within the workplace. The labels shall be in compliance with the requirements of Occupational Health Standard Part 430 "Hazard Communication," as referenced in R 325.50051a and shall include at least the following information for pure MDA and mixtures containing MDA:

DANGER CONTAINS MDA MAY CAUSE CANCER CAUSES DAMAGE TO THE LIVER

(a) Labels. Prior to June 1, 2015, employers may include the following information workplace labels in lieu of the labeling requirements in subrule (2) of this rule:
(i) For pure MDA

DANGER CONTAINS MDA MAY CAUSE CANCER LIVER TOXIN

(ii) For mixtures containing MDA

DANGER CONTAINS MDA CONTAINS MATERIALS WHICH MAY CAUSE CANCER LIVER TOXIN

(3) In meeting the obligation to provide safety data sheets, employers shall make appropriate use of the information found in Appendices A and B.
History: 2015 MR 7, Eff. April 14, 2015.

R 325.50064b Employee information and training.
Rule 14b. (1) All of the following provisions pertain to employee information and training:
(a) An employer shall provide employees with information and training on MDA, in accordance with the provisions of Occupational Health Standard Part 430 "Hazard Communication," as referenced in R 325.50051a, at the time of their initial assignment of work that will involve exposure to MDA and at least annually thereafter.
(b) An employer shall inform employees of all of the following:
(i) An explanation of the contents of these rules, including appendices A and B, and inform employees where a copy of these rules is available for inspection.
(ii) The medical surveillance program that is required by the provisions of R 325.50066 to R 325.50071 and an explanation of the information contained in Appendix C.
(iii) The medical removal provision required by the provisions of R 325.50070 to R 325.50071.
(c) An employer shall make readily available to all affected employees, without cost, all written materials that relate to the employee training program, including a copy of these rules and appendices.
(d) An employer shall provide to the director, upon request, all of the information and training materials that relate to the employee information and training program required by the provisions of this subrule.
(2) An construction industry employer shall maintain all employee training records for 1 year beyond the last date of employment.

History: 2015 MR 7, Eff. April 14, 2015.

HOUSEKEEPING

R 325.50065 Housekeeping provisions.
Rule 15. All of the following provisions pertain to housekeeping:
(a) All surfaces shall be maintained as free as practical of the visible accumulation of MDA.
(b) An employer shall institute a program for detecting MDA leaks, spills, and discharges, including regular visual inspection of operations in which liquid or solid MDA is used.
(c) All leaks shall be repaired and liquid or dust spills cleaned up promptly.
(d) Surfaces that are contaminated with MDA shall not be cleaned using compressed air.
(e) Shoveling, dry sweeping, and other methods of dry clean-up of MDA may be used only where HEPA-filtered vacuuming and wet cleaning are not feasible or practical.
(f) Waste, scrap, debris, bags, containers, equipment, and clothing contaminated with MDA shall be collected and disposed of in a manner to prevent the reentry of MDA into the workplace.
History: 1993 AACS; 2015 MR 7, Eff. April 14, 2015.

MEDICAL SURVEILLANCE AND EXAMINATIONS

R 325.50066 Medical surveillance.
Rule 16. (1) An employer shall establish and make available a medical surveillance program for all of the following:
(a) Employees who are exposed at or above the action level for 30 or more days per year.
(b) Employees who are subject to dermal exposure to MDA for 15 or more days per year.
(c) Employees who have been exposed to MDA in an emergency situation.
(d) Employees whom the employer, based on results from compliance with the provisions of R 325.50057, has reason to believe are being dermally exposed.
(e) Employees who show signs or symptoms of MDA exposure.
(2) An employer shall ensure that all medical examinations and procedures are performed by, or under the supervision of, a licensed physician, at a reasonable time and place, and provided without cost to the employee.
History: 1993 AACS; 2015 MR 7, Eff. April 14, 2015.

R 325.50067 Initial examinations.
Rule 17. (1) Prior to the time of initial assignment, an employer shall provide each employee who is specified by the provisions of R 325.50066(1) with an initial medical examination that includes all of the following elements:
(a) A detailed history that includes all of the following information:
(i) Past work exposure to MDA or any other toxic substances.
(ii) A history of drugs, alcohol, tobacco, and medications that are routinely taken, including the duration and quantity.
(iii) A history of dermatitis, chemical skin sensitization, or previous hepatic disease.
(b) A physical examination that includes all normal components of a routine physical examination and an examination of the skin and an examination for signs of liver disease.
(c) Laboratory tests, including liver function tests and urinalysis.
(d) Additional tests as necessary in the opinion of the physician.
(2) An initial medical examination is not required if adequate records show that an employee has been examined in accordance with the requirements of subrule (1) of this rule before the date of initial assignment.
History: 1993 AACS; 2015 MR 7, Eff. April 14, 2015.

R 325.50067a Periodic examinations.
Rule 17a. (1) An employer shall provide each employee who is specified in the provisions of R 325.50066(1) with a periodic medical examination at least annually following the initial examination. A periodic examination shall include all of the following elements:
(a) A brief history of any new exposure to potential liver toxins; changes in drug, tobacco, or alcohol intake; and the appearance of physical signs that relate to the liver and the skin.
(b) The appropriate tests and examinations, including liver function tests and skin examinations.
(c) Appropriate additional tests or examinations as deemed necessary by the physician.

(2) If, in the physician's opinion, the results of liver function tests indicate an abnormality, an employee shall be removed from further MDA exposure in accordance with the provisions of R 325.50070 and R 325.50070a. Repeat liver function tests shall be conducted as recommended by the physician.
History: 2015 MR 7, Eff. April 14, 2015.

R 325.50067b Emergency examinations
Rule 17b. If an employer determines that an employee has been exposed to a potentially hazardous amount of MDA in an emergency situation as addressed by the provisions of R 325.50054, the employer shall provide medical examinations in accordance with the provisions of R 325.50067a. If the results of liver function testing indicate an abnormality, the employee shall be removed in accordance with the provisions of R 325.50070 and R 325.50070a. Repeat liver function tests shall be conducted on the advice of the physician. If the results of the tests are normal, tests shall be repeated 2 to 3 weeks from the initial testing. If the results of the second set of tests are normal and if the physician advises that additional testing is not required, then additional testing is not required.
History: 2015 MR 7, Eff. April 14, 2015.

R 325.50067c Additional examinations.
Rule 17c. If an employee develops signs and symptoms that are associated with exposure to MDA, an employer shall provide the employee with an additional medical examination, including a liver function test. Repeat liver function tests shall be conducted on the advice of the physician. If the results of the tests are normal, tests shall be repeated 2 to 3 weeks from the initial testing. If the results of the second set of tests are normal and if the physician advises that additional testing is not required, then additional testing is not required.
History: 2015 MR 7, Eff. April 14, 2015.

R 325.50068 Multiple physician review.
Rule 18. (1) If an employer selects the initial physician who conducts any medical examination or consultation provided to an employee pursuant to these rules, and if the employee has signs or symptoms of occupational exposure to MDA, which could include an abnormal liver function test, and if the employee disagrees with the opinion of the examining physician, and if the opinion could affect the employee's job status, the employee may designate an appropriate, mutually acceptable second physician to do both of the following:
(a) Review any findings, determinations, or recommendations of the initial physician.
(b) Conduct such examinations, consultations, and laboratory tests as the second physician deems necessary to facilitate the review.
(2) An employer shall promptly notify an employee of the right to seek a second medical opinion after each occasion that an initial physician conducts a medical examination or consultation pursuant to the provisions of these rules. The employer may condition its participation in, and payment for, the multiple physician review mechanism upon the employee doing both of the following within 15 days after receipt of the foregoing notification or receipt of the initial physician's written opinion, whichever is later:
(a) Informing the employer that he or she intends to seek a second medical opinion.
(b) Initiating steps to make an appointment with a second physician.
(3) If the findings, determinations, or recommendations of the second physician differ from those of the initial physician, then the employer and the employee shall ensure that efforts are made for the 2 physicians to resolve any disagreement.
(4) If the 2 physicians have been unable to quickly resolve their disagreement, then the employer and the employee, through their respective physicians, shall designate a third physician to do both of the following:
(a) Review any findings, determinations, or recommendations of the previous physicians.
(b) Conduct such examinations, consultations, laboratory tests, and discussions with the previous physicians as the third physician deems necessary to resolve the disagreement of the previous physicians.
(5) An employer shall act consistent with the findings, determinations, and recommendations of the third physician, unless the employer and the employee reach an agreement that is otherwise consistent with the recommendations of at least 1 of the 3 physicians.
History: 1993 AACS; 2015 MR 7, Eff. April 14, 2015.

R 325.50069 Information provided to physician.
Rule 19. (1) An employer shall provide all of the following information to the examining physician:
(a) A copy of these rules and appendices.
(b) A description of the affected employee's duties as they relate to the employee's potential exposure to MDA.
(c) The employee's current actual or representative MDA exposure level.

(d) A description of any personal protective equipment that is used or to be used.
(e) Information from previous employment-related medical examinations of the affected employee.
(2) An employer shall provide the information required by the provisions of subrule (1) of this rule to a second physician upon a request either by the second physician or by the employee.
History: 1993 AACS; 2015 MR 7, Eff. April 14, 2015.

R 325.50069a Physician's written opinion.
Rule 19a. (1) For each medical examination that is conducted pursuant to the provisions of these rules, an employer shall obtain, and provide the employee with a copy of, the examining physician's written opinion within 15 days of receipt of the opinion. The written opinion shall include all of the following:
(a) The occupationally pertinent results of the medical examination and tests.
(b) The physician's opinion concerning whether the employee has any detected medical conditions that would place the employee at increased risk of material impairment of health from exposure to MDA.
(c) The physician's recommended limitations upon the employee's exposure to MDA or upon the employee's use of protective clothing or equipment and respirators.
(d) A statement that the employee has been informed by the physician of the results of the medical examination and any medical conditions resulting from MDA exposure that require further explanation or treatment.
(2) The written opinion obtained by the employer shall not reveal specific findings or diagnoses unrelated to occupational exposures.
History: 2015 MR 7, Eff. April 14, 2015.

MEDICAL REMOVAL

R 325.50070 Medical removal.
Rule 20. (1) After any medical examination specified by the provisions of R 325.50067 to R 325.50067c, an employee shall be removed from work environments in which exposure to MDA is at or above the action level or where dermal exposure to MDA may occur in either of the following situations:
(a) When the employee exhibits signs or symptoms, or both, indicative of acute exposure to MDA.
(b) When the examining physician determines that an employee's abnormal liver function tests are not associated with MDA exposure, but that the abnormalities may be exacerbated as a result of occupational exposure to MDA.
(2) An employer shall remove an employee from work environments in which exposure to MDA is at or above the action level or where dermal exposure to MDA may occur if there is a final medical determination or opinion that the employee has a detected medical condition that places the employee at increased risk of material impairment to health from exposure to MDA.
(3) For the purposes of this rule, the phrase "final medical determination" means the outcome of the physician review mechanism that is used pursuant to the medical surveillance provisions of these rules.
(4) Where a final medical determination results in any recommended special protective measures for an employee or a limitation on an employee's exposure to MDA, the employer shall implement, and act consistent with, the recommendation.
History: 1993 AACS; 2015 MR 7, Eff. April 14, 2015.

R 325.50070a Returning employee to former job status.
Rule 20a. (1) An employer shall return an employee to his or her former job status in either of the following situations:
(a) Upon the advice of the physician or when the employee no longer shows signs or symptoms of exposure to MDA.
(b) When a subsequent final medical determination results in a medical finding, determination, or opinion that the employee no longer has a detected medical condition that places the employee at increased risk of material impairment to health from exposure to MDA.
(2) For the purposes of these rules, the requirement that an employer return an employee to his or her former job status is not intended to expand upon or restrict any rights an employee has or would have had, absent temporary medical removal, to a specific job classification or position under the terms of a collective bargaining agreement.
(3) An employer shall remove any limitations placed on an employee, or end any special protective measures provided to an employee, pursuant to a final medical determination when a subsequent final medical determination indicates that the limitations or special protective measures are no longer necessary.
(4) Where the physician review mechanism that is used pursuant to the medical surveillance provisions of these rules has not yet resulted in a final medical determination with respect to an employee, an employer shall act as follows:

(a) The employer may remove the employee from exposure to MDA, provide special protective measures to the employee, or place limitations upon the employee consistent with the medical findings, determinations, or recommendations of any of the physicians who have reviewed the employee's health status.
(b) The employer may return the employee to his or her former job status and end any special protective measures provided to the employee consistent with the medical findings, determinations, or recommendations of any of the physicians who have reviewed the employee's health status, with the 2 following exceptions:
(i) If the initial removal, special protection, or limitation of the employee resulted from a final medical determination that differed from the findings, determinations, or recommendations of the initial physician.
(ii) If the employee has been on removal status for the preceding 6 months as a result of exposure to MDA, then the employer shall await a final medical determination.
History: 2015 MR 7, Eff. April 14, 2015.

R 325.50071 Medical removal protection benefits.
Rule 21. (1) An employer shall provide to an employee up to 6 months of medical removal protection benefits on each occasion that an employee is removed from exposure to MDA or is otherwise limited pursuant to these rules.
(2) For the purposes of this rule, the requirement that an employer provide medical removal protection benefits means that the employer shall maintain the earnings, seniority, and other employment rights and benefits of an employee as though the employee had not been removed from normal exposure to MDA or otherwise limited.
(3) During the period of time that an employee is removed from normal exposure to MDA or otherwise limited, the employer may condition the provision of medical removal protection benefits upon the employee's participation in follow-up medical surveillance made available pursuant to these rules.
(4) If a removed employee files a claim for workers' compensation payments for a MDA-related disability, then an employer shall continue to provide medical removal protection benefits pending disposition of the claim. To the extent that an award is made to the employee for earnings lost during the period of removal, the employer's medical removal protection obligation shall be reduced by such amount. The employer shall receive no credit for workers' compensation payments received by the employee for treatment-related expenses.
(5) An employer's obligation to provide medical removal protection benefits to a removed employee shall be reduced to the extent that the employee receives compensation for earnings lost during the period of removal either from a publicly funded or employer-funded compensation program or receives income from non-MDA-related employment with any employer that is made possible by virtue of the employee's removal.
(6) In the case of employees who do not recover within the 6 months of removal, an employer shall take all of the following measures with respect to any employee who is medically removed from exposure to MDA:
(a) The employer shall make available to the employee a medical examination pursuant to the provisions of these rules to obtain a final medical determination with respect to the employee.
(b) The employer shall assure that the final medical determination obtained indicates whether or not the employee may be returned to his or her former job status. If return is not recommended, the final medical determination shall specify what measures should be taken to protect the employee's health.
(c) If the final medical determination has not yet been obtained or, once obtained, indicates that the employee may not yet be returned to his or her former job status, the employer shall continue to provide medical removal protection benefits to the employee until either the employee is returned to former job status or a final medical determination is made that the employee is incapable of ever safely returning to his or her former job status.
(d) If the employer acts pursuant to a final medical determination that permits the return of the employee to his or her former job status despite what would otherwise be an abnormal liver function test, later questions concerning removing the employee again shall be decided pursuant to a final medical determination. The employer need not automatically remove such an employee pursuant to the MDA removal criteria provided by these rules.
(7) If an employer, although not required by these rules to do so, removes an employee from exposure to MDA or otherwise places limitations on an employee due to the effects of MDA exposure on the employee's medical condition, the employer shall provide medical removal protection benefits to the employee equal to that required by the provisions of subrules (1) and (2) of this rule.
History: 1993 AACS; 2015 MR 7, Eff. April 14, 2015.

RECORDKEEPING

R 325.50072 Recordkeeping.
Rule 22. (1) This subrule applies to general industry employers only. If, as a result of the initial monitoring, the processing, use, or handling of products that are made from or contain MDA is exempted from other requirements of

these rules pursuant to the provisions of R 325.50051(2), an employer shall establish and maintain an accurate record of the monitoring relied on in support of the exemption.
(2) This subrule applies to construction industry employers only. If an employer has relied on objective data that demonstrate that products made from or containing MDA are not capable of releasing MDA or do not present a dermal exposure problem under the expected conditions of processing, use, or handling to exempt such operations from the initial monitoring requirements of R 325.50056, then the employer shall establish and maintain an accurate record of the objective data that was reasonably relied upon in support of the exemption.
(3) The record required pursuant to the provisions of subrule (1) or (2) of this rule shall be maintained for the duration of the employer's reliance on the record and shall include all of the following information:
(a) The product that qualifies for exemption.
(b) The source of the monitoring data; for example, was monitoring performed by the employer or a private contractor.
(c) The testing protocol, results of testing, and analysis of the material for the release of MDA.
(d) A description of the operation that was exempted and an explanation of how the data support the exemption.
(e) Other data that are relevant to the operations, materials, processing, or employee exposures covered by the exemption.
History: 1993 AACS; 2015 MR 7, Eff. April 14, 2015.

R 325.50072a. Accurate record of objective data for general industry.
Rule 22a. (1) This subrule applies to general industry employees only. If the processing, use, or handling of products made from or containing MDA are exempted from other requirements of these rules as provided in R 325.50051, the employer shall establish and maintain an accurate record of objective data that were relied upon in support of the exemption.
(2) The record shall be maintained for the duration of the employer's reliance upon the data.
(3) The record shall include all of the following information:
(a) The product that qualifies for exemption.
(b) The source of the objective data.
(c) The testing protocol.
(d) The results of testing and analysis of the material for the release of MDA.
(e) A description of the operation that was exempted and an explanation of how the data supports the exemption.
(f) Other data that are relevant to the operations, materials, processing, or employee exposures covered by the exemption.
History: 2015 MR 7, Eff. April 14, 2015.

R 325.50072b. Historical monitoring data for construction industry.
Rule 22b. (1) This subrule applies to construction industry employees only. If an employer has relied on historical monitoring data to demonstrate that exposures on a particular job will be below the action level and exempt such operations from the initial monitoring required by the provisions of R 325.50056, then the employer shall establish and maintain an accurate record of the historical monitoring data that were reasonably relied upon in support of the exemption. The record shall be maintained for the duration of the employer's reliance upon the data. The record shall include all of the following information:
(a) Documentation that the data upon which judgments are based are scientifically sound and were collected using methods that are sufficiently accurate and precise.
(b) Evidence that the processes and work practices that were in use when the data were obtained are essentially the same as those to be used for the job for which initial monitoring will not be performed.
(c) Evidence that the characteristics of the MDA-containing material being used when the historical data were obtained are the same as those on the job for which initial monitoring will not be performed.
(d) Evidence that the environmental conditions prevailing when the historical monitoring data were obtained are the same as those on the job for which initial monitoring will not be performed.
(e) Other data that are relevant to the operations, materials, processing, or employee exposures covered by the exemption.
(2) The employer shall maintain the record referenced in subrule (1) of this rule for the duration of the employer's reliance upon such historical monitoring data.
(3) An employer may use the services of a competent organization, such as an industry trade association and an employee association, to maintain the records required by these rules.
History: 2015 MR 7, Eff. April 14, 2015.

R 325.50072c Exposure measurements.

Rule 22c. (1) An employer shall establish and maintain an accurate record of all exposure monitoring measurements required by the provisions of R 325.50055 to R 325.50057.
(2) The records shall be maintained for not less than 30 years and access to the records shall be provided in accordance with the provisions of Occupational Health Standard Part 470 "Employee Medical Records and Trade Secrets," as referenced in R 325.50051a.
(3) The record shall include all of the following information:
(a) The dates, number, duration, and results of each of the samples taken.
(b) A description of the procedure that was used to determine representative employee exposures.
(c) Identification of the sampling and analytical methods that were used.
(d) A description of the type of respiratory and other protective devices that were worn, if any.
(e) The name, social security number, job classification, and exposure levels of the employees whose exposures are represented.
History: 2015 MR 7, Eff. April 14, 2015.

R 325.50072d Medical surveillance recordkeeping.
Rule 22d. (1) An employer shall establish and maintain, in accordance with the provisions of Occupational Health Standard Part 470 "Employee Medical Records and Trade Secrets," as referenced in R 325.50051a, accurate medical surveillance records for each employee who is subject to the medical surveillance required by the provisions of R 325.50066 to R 325.50070.
(2) The records shall include all of the following information:
(a) The name, social security number, and description of the duties of an employee.
(b) The employer's copy of the physician's written opinion on the initial, periodic, and any special examinations, including the results of the medical examination and all tests, opinions, and recommendations.
(c) The results of any airborne exposure monitoring that was performed for an employee and the representative exposure levels supplied to the physician.
(d) Any employee medical complaints that are related to exposure to MDA.
(e) Information that is provided to the physician as required by the provisions of R 325.50069(1).
History: 2015 MR 7, Eff. April 14, 2015.

R 325.50072e Medical records for construction industry.
Rule 22e. This rule applies only to a construction industry employers. An employer shall ensure that the medical surveillance records include all of the following information:
(a) Are maintained for the duration of employment plus 30 years, in accordance with Occupational Health Standard Part 470 "Employee Medical Records and Trade Secrets," as referenced in R 325.50051a.
(b) A copy of the employee's medical removal and return to work status.
History: 2015 MR 7, Eff. April 14, 2015.

R 325.50072f Medical records for general industry.
Rule 22f. (1) This rule applies only to a general industry employers. An employer shall keep, or assure that the examining physician keeps, all of the following medical records:
(a) A copy of these rules and appendices, except that the employer may keep 1 copy of these rules and appendices for all employees if the employer references these rules and appendices in the medical surveillance record of each employee.
(b) A copy of the information that is provided to the physician as required by the provisions of R 325.50069(1).
(c) A description of the laboratory procedures and a copy of any standards or guidelines that were used to interpret the test results or references to the information.
(d) A copy of the employee's medical and work history that is related to exposure to MDA.
(2) The employer shall maintain the record referenced in subrule (1) of this rule for at least the duration of employment plus 30 years, in accordance with Occupational Health Standard Part 470 "Employee Medical Records and Trade Secrets," as referenced in R 325.50051a.
(3) An employer shall establish and maintain an accurate record for each employee who is removed from current exposure to MDA pursuant to the provisions of R 325.50070 to R 325.50070a.
(4) An employer shall maintain each medical removal record for not less than the duration of the employee's employment plus 30 years.
(5) Each record shall include all of the following information:
(a) The name and social security number of the employee.

(b) The date of each occasion that the employee was removed from current exposure to MDA and the corresponding date on which the employee was returned to his or her former job status.
(c) A brief explanation of how each removal was or is being accomplished.
(d) A statement that indicates the reason for the removal.
History 2015 MR 7, Eff. April 14, 2015.

R 325.50072g Availability.
Rule 22g. (1) An employer shall make records available for examination and copying in accordance with the provisions of Occupational Health Standard Part 470 "Employee Medical Records and Trade Secrets," as referenced in R 325.50051a, and the following provisions:
(a) Any record that is required by this rule shall be available, upon request, to the director.
(b) Any employee exposure monitoring record that is required by this rule shall be provided, upon request, to the employee and a designated employee representative.
(c) Any employee medical record that is required by this rule shall be provided, upon request, to the subject employee and a designated employee representative.
(2) An employer shall comply with the requirements of Occupational Health Standard Part 470 "Employee Medical Records and Trade Secrets," as referenced in R 325.50051a, that involve the transfer of records.
History 2015 MR 7, Eff. April 14, 2015.

R 325.50073
Source: 1993 AACS.

R 325.50074
Source: 1998-2000 AACS.

R 325.50075 Rescinded .
History: 1993 AACS; 1999 AACS; 2015 MR 7, Eff. April 14, 2015.

R 325.50076 Rescinded.
History: 1993 AACS; 1999 AACS; 2015 MR 7, Eff. April 14, 2015.

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R 325.50091
Source: 2014 AACS.

R 325.50092
Source: 2014 AACS.

R 325.50093
Source: 2014 AACS.

COKE OVEN EMISSIONS

R 325.50100
Source: 2013 AACS.

R 325.50101
Source: 2013 AACS.

R 325.50102
Source: 2013 AACS.

R 325.50102a
Source: 2013 AACS.

R 325.50103
Source: 1979 AC.

R 325.50104
Source: 1979 AC.

R 325.50105
Source: 2013 AACS.

R 325.50106
Source: 2013 AACS.

R 325.50106a
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R 325.50129
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HAZARD COMMUNICATION

R 325.50129a
Source: 2013 AACS.

R 325.50130
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R 325.50132
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R 325.50133
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R 325.50134
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R 325.50135
Source: 2013 AACS.

R 325.50136
Source: 2013 AACS.

R 325.50151
Source: 1998-2000 AACS.

OCCUPATIONAL HEALTH STANDARDS

PART 315. CHROMIUM (VI) IN GENERAL INDUSTRY

R 325.50141
Source: 2006 AACS.

R 325.50142
Source: 2010 AACS.

R 325.50143
Source: 2010 AACS.

PART 501. AGRICULTURAL OPERATIONS

R 325.50171
Source: 2002 AACS.

OCCUPATIONAL HEALTH STANDARDS

PART 2. TUNNELS, SHAFTS, CAISSONS, AND COFFERDAMS

R 325.50201
Source: 1997 AACS.

R 325.50202
Source: 1997 AACS.

R 325.50203
Source: 1997 AACS.

R 325.50204
Source: 1997 AACS.

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Source: 1997 AACS.

R 325.50231
Source: 1997 AACS.

DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

DIRECTOR'S OFFICE

OCCUPATIONAL HEALTH STANDARDS--ABRASIVE BLASTING

R 325.50251
Source: 2001 AACS.

R 325.50252
Source: 2001 AACS.

R 325.50253
Source: 2001 AACS.

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DIVING OPERATIONS

R 325.50301
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R 325.50342
Source: 2013 AACS.

R 325.50343
Source: 2013 AACS.

R 325.50344
Source: 2013 AACS.

R 325.50345
Source: 2013 AACS.

R 325.50346
Source: 2013 AACS.

R 325.50347

Source: 2013 AACS.

R 325.50348
Source: 2013 AACS.

ILLUMINATION

R 325.50902 Rescinded.
History: 2001 AACS; 2015 MR 10, Eff. May 29, 2015.

R 325.51004 Rescinded.
History: 2001 AACS; 2015 MR 10, Eff. May 29, 2015.

AIR CONTAMINANTS

R 325.51101
Source: 2013 AACS.

R 325.51101a
Source: 2013 AACS.

R 325.51103
Source: 2001 AACS.

R 325.51104
Source: 2001 AACS.

R 325.51105
Source: 2013 AACS.

R 325.51106
Source: 2001 AACS.

R 325.51107
Source: 1990 AACS.

R 325.51108
Source: 2013 AACS.

PART 511. TEMPORARY LABOR CAMPS

R 325.51131
Source: 2008 AACS.

R 325.51132
Source: 2008 AACS.

R 325.51133
Source: 2008 AACS.

R 325.51134
Source: 2008 AACS.

R 325.51135
Source: 2008 AACS.

R 325.51136

Source: 2008 AACS.

R 325.51137
Source: 2008 AACS.

R 325.51138
Source: 2008 AACS.

R 325.51139
Source: 2013 AACS.

R 325.51140
Source: 2008 AACS.

R 325.51141
Source: 2008 AACS.

R 325.51142
Source: 2008 AACS.

R 325.51143
Source: 2013 AACS.

Rule 4301
Source: 2008 AACS.

ETHYLENE OXIDE

R 325.51151
Source: 1993 AACS.

R 325.51151a. Reference of standards.
Rule 1a. (1) The following Michigan occupational safety and health standards are referenced in these rules. Up to 5 copies of these standards may be obtained at no charge from the Michigan Department of Licensing and Regulatory Affairs, MIOSHA Regulatory Services Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan 48909-8143, or via the internet at website: www.michigan.gov/mioshastandards. For quantities greater than 5, the cost, at the time of adoption of these rules, is 4 cents per page.
(a) Construction Safety Standard Part 18 “Fire Prevention and Prevention,” R 408.41801 to R 408.41884.
(b) General Industry Safety Standard Part 6 “Fire Exits,” R 408.10601 to R 408.10697.
(c) General Industry Safety Standard Part 33 “Personal Protective Equipment,” R 408.13301 to R 408.13398.
(d) Occupational Health Standard Part 430 “Hazard Communication.” R 325.77001 to R 325.77003.
(e) Occupational Health Standard Part 433 “Personal Protective Equipment,” R 325.60001 to R 325.60013.
(f) Occupational Health Standard Part 451 “Respiratory Protection,” R 325.60051 to R 325.60052.
(g) Occupational Health Standard Part 470 “Employee Medical Records and Trade Secrets,” R 325.3451 to R 325.3476.
(2) Appendices A to D to these rules are informational and are not intended to create any additional obligations not otherwise imposed or to detract from any existing obligations.
History: 2015 MR 4, Eff. March 3, 2015.

R 325.51152. Definitions.
Rule 2. (1) As used in these rules:
(a) "Act" means Michigan occupational safety and health act of 1974 PA 154, MCL 408.1001 to MCL 408.1094.
(b) "Action level" means a concentration of EtO of 0.5 parts EtO per million parts of air (0.5 ppm) calculated as an 8-hour, time-weighted average.
(c) "Authorized person" means any person specifically authorized by the employer whose duties require the person to enter a regulated area, any person entering such an area as a designated representative of employees for the purpose of exercising the right to observe monitoring procedures under R 325.51176, or any other person authorized by the act.

(d) "Director" means the director of the Michigan department of licensing and regulatory affairs or his or her designee.
(e) "Emergency" means any occurrence which is likely to or does result in an unexpected release of ethylene oxide, such as equipment failure, rupture of containers, or failure of control equipment.
(f) "Employee exposure" means exposure to airborne EtO that would occur if the employee were not using respiratory protective equipment.
(g) "Ethylene oxide" or "EtO" means a 3-membered ring organic compound, chemical formula C_2H_4O.
History: 1988 AACS; 2000 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51153
Source: 1993 AACS.

R 325.51154
Source: 1993 AACS.

R 325.51155
Source: 1993 AACS.

R 325.51156. Exposure monitoring; frequency.
Rule 6. (1) If the monitoring required by R 325.51155 reveals employee exposure to be at or above the action level, but below the 8-hour TWA, an employer shall repeat such monitoring for each such employee at least every 6 months.
(2) If monitoring required by R 325.51155 reveals that employee exposure is above the 8-hour TWA, an employer shall repeat such monitoring for each affected employee at least every 3 months.
(3) The employer may alter the monitoring schedule from quarterly to semiannually for any employee for whom 2 consecutive measurements, taken not less than 7 days apart, indicate that the employee's exposure has decreased to or below the 8-hour TWA.
(4) If there has been a production, process, control equipment, personnel, or work practice change that might result in new or additional employee exposure to EtO, or if an employer has any other reason to suspect a change that might result in new or additional exposures to EtO, the employer shall institute additional monitoring pursuant to this standard.
History: 1988 AACS; 1993 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51156a. Termination of monitoring, 'action level,' excursion limit.
Rule 6a. (1) If the initial monitoring required by R 325.51155 reveals employee exposure to be below the action level, the employer may discontinue TWA monitoring for those employees whose exposures are represented by the initial monitoring.
(2) If the periodic monitoring required by R 325.51156 reveals that employee exposures, as indicated by at least 2 consecutive measurements taken at least 7 days apart, are below the action level, the employer may discontinue TWA monitoring for those employees whose exposures are represented by such monitoring.
(3) If the initial monitoring required by R 325.51155 reveals employee exposure to be at or below the excursion limit, the employer may discontinue excursion limit monitoring for those employees whose exposures are represented by the initial monitoring.
(4) If the periodic monitoring required by R 325.51156 reveals that employee exposures, as indicated by at least 2 consecutive measurements taken at least 7 days apart, are at or below the excursion limit, the employer may discontinue excursion limit monitoring for those employees whose exposures are represented by such monitoring.
History: 2015 MR 4, Eff. March 3, 2015.

R 325.51157
Source: 1988 AACS.

R 325.51158. Employee notification of monitoring results.
Rule 8. (1) The employer must, within 15 working days after the receipt of the results of any monitoring results, notify each affected employee of the results, either individually in writing, or by posting the results in an appropriate location that is accessible to affected employees.
(2) If the monitoring results indicate that employee exposure, without regard to respirators, exceeds 1 or both of the permissible employee exposure limits, an employer shall include, in the written notice required by subrule (1) of this rule, a statement that the permissible employee exposure limit was exceeded and a description of the corrective action taken or to be taken to reduce exposure to or below the permissible employee exposure limit.

History: 1988 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51159
Source: 1993 AACS.

R 325.51160
Source: 1988 AACS.

R 325.51161
Source: 1993 AACS.

R 325.51162. Respirators; selection; respiratory protection program.
Rule 12 (1) For employees who use respirators required by these rules, the employer shall select and provide each employee an appropriate respirator that complies with the requirements of these rules. Respirators must be used during all of the following:
(a) Periods necessary to install or implement feasible engineering and work practice controls.
(b) Work operations, such as maintenance and repair activities and vessel cleaning for which engineering and work practice controls are not feasible.
(c) Work operations for which feasible engineering and work practice controls are not yet sufficient to reduce an employee's exposure to or below the TWA.
(d) Emergencies.
(2) For respirator selection, an employer must do all of the following:
(a) Select, and provide to employees, the appropriate respirators in accordance with Occupational Health Standard Part 451 "Respiratory Protection," as referenced in R 325.51151a, however, an employer must not select or use half masks of any type because EtO may cause eye irritation or injury.
(b) Equip each air-purifying, full facepiece respirator with a front-or back-mounted canister approved for protection against ethylene oxide.
(c) For escape, provide employees with any respirator permitted for use under subdivisions (a) and (b) of this subrule.
(3) The employer must implement a respiratory protection program in accordance with Occupational Health Standard Part 451 "Respiratory Protection," as referenced in R 325.51151a, which covers each employee required by this rule to use a respirator.
History: 1988 AACS; 1993 AACS; 2000 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51163. Protective clothing and equipment.
Rule 13. If it is possible that employees could have eye or skin contact with EtO or EtO solutions, then the employer must select and provide, at no cost to the employee, appropriate protective clothing or other equipment in accordance with General Industry Safety Standard Part 33 "Personal Protective Equipment," and Occupational Health Standard Part 433 "Personal Protective Equipment," and as referenced in R 325.51151a, to protect any area of the employee's body that may come in contact with the EtO or EtO solution, and must ensure that the employee wears the protective clothing and equipment provided.
History: 1988 AACS; 2000 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51164. Emergency situations; written plans; alerting employees.
Rule 14. (1) The employer shall develop a written plan for emergency situations for each workplace where EtO is used. The employer shall implement appropriate portions of the plan in the event of an emergency.
(2) The plan shall specifically provide that an employee who is engaged in correcting emergency conditions shall be equipped with respiratory protection as required in R 325.51162 until the emergency has abated.
(3) The plan shall include the elements prescribed in the provisions of Construction Safety Standard Part 18 Fire Protection and Prevention and General Industry Safety Standard Part 6 Fire Exits, as referenced in R 325.51151a.
(4) Where there is the possibility of employee exposure to EtO due to an emergency, the employer shall develop and use means to promptly alert potentially affected employees of such occurrences.
(5) Affected employees who are not engaged in correcting the emergency shall be immediately evacuated from the area and shall not be permitted to return until the emergency has abated.
History: 1988 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51165

Source: 1988 AACS.

R 325.51166. Medical examinations and consultation; frequency and content.
Rule 16. (1) An employer shall make medical examinations and consultations available to each employee covered in R 325.51165 as follows:
(a) Before assignment to a work area where exposure may be at or above the action level or short-term exposure limit for at least 30 days a year.
(b) At least annually each employee exposed at or above the action level for at least 30 days in the past year.
(c) At termination of employment or reassignment to an area where exposure to EtO is not at or above the action level or short-term exposure limit for at least 30 days a year.
(d) As medically appropriate for any employee exposed in an emergency.
(e) As soon as possible after notification by an employee that the employee has developed signs or symptoms indicating possible overexposure to EtO or that the employee desires medical advice concerning the effects of current or past exposure to EtO on the employee's ability to produce a healthy child.
(f) An employer shall provide additional medical examinations to affected employees at the frequency recommended by the examining physician.
(2) Medical examinations made available pursuant to subrule (1) of this rule shall include all of the following:
(a) A medical and work history, with emphasis given to eyes, skin, and pulmonary, hematologic, neurologic, and reproductive systems.
(b) A physical examination with emphasis given to eyes, skin, and pulmonary, hematologic, neurologic, and reproductive systems.
(c) A complete blood count, including at least a white cell count with differential, red cell count, hematocrit, and hemoglobin.
(d) Additional tests which, in the opinion of the examining physician, are appropriate.
(e) Pregnancy testing or laboratory evaluation of fertility shall be provided if requested by the employee and deemed appropriate by the physician.
History: 1988 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51167. Medical surveillance program; information provided to the physician by employer.
Rule 17. An employer shall provide all of the following information to the examining physician:
(a) A copy of these rules and related appendices which may be obtained from the department of licensing and regulatory affairs.
(b) A description of an affected employee's duties as they relate to the employee's exposure.
(c) The employee's representative or anticipated exposure level.
(d) A description of any personal protective equipment used or to be used.
(e) Information from previous medical examinations of the affected employee that is not otherwise available to the examining physician.
History: 1988 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51168
Source: 1988 AACS.

R 325.51168a. Hazard communication.
Rule 18a. (1) Chemical manufacturers, importers, distributors and employers shall comply with all requirements of the Occupational Health Standard Part 430 “Hazard Communication,” as referenced in R 325.51151a, for EtO.
(2) In classifying the hazards of EtO, at least all of the following hazards shall be addressed:
(a) Cancer.
(b) Reproductive effects.
(c) Mutagenicity.
(d) Central nervous system.
(e) Skin sensitization.
(f) Skin.
(g) Eye and respiratory tract irritation.
(h) Acute toxicity effects.
(i) Flammability.

(3) An employer shall include EtO in the hazard communication program established to comply with the Occupational Health Standard Part 430 "Hazard Communication." An employer shall ensure that each employee has access to labels on containers of EtO and to safety data sheets, and is trained in accordance with the requirements R 325.51170 and Occupational Health Standard Part 430 "Hazard Communication," as referenced in R 325.51151a.
History: 1988 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51169. Signs and labels.
Rule 19. (1) An employer shall post and maintain legible signs demarcating regulated areas and entrances or access ways to regulated areas that bear the following legend:

DANGER ETHYLENE OXIDE MAY CAUSE CANCER MAY DAMAGE FERTILITY OR THE UNBORN CHILD RESPIRATORY PROTECTION AND PROTECTIVE CLOTHING MAY BE REQUIRED IN THIS AREA AUTHORIZED PERSONNEL ONLY

(2) Prior to June 1, 2016, an employer may use the following legend in lieu of that specified in subrule (1) of this rule:

DANGER ETHYLENE OXIDE CANCER HAZARD AND REPRODUCTIVE HAZARD AUTHORIZED PERSONNEL ONLY RESPIRATORS AND PROTECTIVE CLOTHING MAY BE REQUIRED TO BE WORN IN THIS AREA

(3) The employer shall ensure that labels are affixed to all containers of EtO whose contents are capable of causing employee exposure at or above the action level or whose contents may reasonably be foreseen to cause employee exposure above the excursion limit, and shall ensure that the labels remain affixed when the containers of EtO leave the workplace. For the purposes of this subrule; reaction vessels, storage tanks, and pipes or piping systems are not considered to be containers.
(4) Prior to June 1, 2015, an employer may include the following information on containers of EtO in lieu of the labeling requirements in subrule (1) of this rule:
(a)

DANGER CONTAINS ETHYLENE OXIDE CANCER HAZARD AND REPRODUCTIVE HAZARD

(b) A warning statement against breathing airborne concentrations of EtO.
(5) The labeling requirements of this rule do not apply where EtO is used as a pesticide, as such term is defined in the Federal Insecticide, Fungicide, and Rodenticide Act, 7 U.S.C. §136 et seq., when it is labeled pursuant to that act and regulations issued under the act by the environmental protection agency.
History: 1988 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51170
Source: 1993 AACS.

R 325.51171
Source: 1988 AACS.

R 325.51172. Monitoring of exposure; records; maintenance.
Rule 22. (1) An employer shall establish and maintain an accurate record of all monitoring required by R 325.51154 to R 325.51156. The exposure monitoring record shall include all of the following information:
(a) The dates, number, duration, and results of each of the samples taken, including a description of the sampling plan used to determine representative employee exposure.
(b) The operation involving exposure to EtO that is being monitored.

(c) A description of the sampling and analytical methods used and the data relied upon to establish that the methods used meet the accuracy and precision requirements of R 325.51157.
(d) Type of protective devices worn, if any.
(e) Name, social security number, and job classification of the employee being monitored and of all other employees whose exposure the measurement is intended to represent.
(2) An employer shall maintain the record specified in subrule (1) of this rule for not less than 30 years in accordance with the provisions of Occupational Health Standard Part 470 "Employee Medical Records and Trade Secrets," as referenced in R 325.51151a.
History: 1988 AACS; 1993 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51173. Medical surveillance records; maintenance.
Rule 23. (1) An employer shall establish and maintain an accurate record for each employee subject to medical surveillance as required by R 325.51165. The medical surveillance record shall include all of the following information:
(a) The name and social security number of the employee.
(b) A copy of the physician's written opinions.
(c) Any employee medical complaints related to exposure to EtO.
(d) A copy of the information provided to the physician as required by R 325.51167.
(2) An employer shall ensure the record is maintained for the duration of employment plus 30 years in accordance with the provisions of Occupational Health Standard Part 470 "Employee Medical Records and Trade Secrets," as referenced in R 325.51151a.
History: 1988 AACS; 1993 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51174. Availability of records
Rule 24. (1) Upon written request, an employer shall make all records that are required to be maintained by these rules available to the director for examination and copying.
(2) Upon request, an employer shall make records that are required to be maintained by R 325.51171, R 325.51172, and R 325.51173 available to affected employees, former employees, and designated representatives for examination and copying in accordance with the provisions of Occupational Health Standard Part 470 "Employee Medical Records and Trade Secrets," as referenced in R 325.51151a.
(3) An employer shall make records that are required to be maintained by R 325.51173 available for examination and copying to anyone who has the specific written consent of the affected employee or former employee.
History: 1988 AACS; 1993 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51175. Transfer of records.
Rule 25. The employer shall comply with the requirements concerning transfer of records set forth in Occupational Health Standard Part 470 "Employee Medical Records and Trade Secrets," as referenced R 325.51151a.
History: 1988 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51176
Source: 1988 AACS.

R 325.51177 Rescinded.
History: 1988 AACS; 1993 AACS; 2000 AACS; 2015 MR 4, Eff. March 3, 2015.

ASBESTOS STANDARDS FOR CONSTRUCTION

R 325.51301
Source: 2013 AACS.

R 325.51302
Source: 2013 AACS.

ASBESTOS STANDARDS FOR GENERAL INDUSTRY

R 325.51311

Source: 2013 AACS.

R 325.51312
Source: 2013 AACS.

DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

DIRECTOR'S OFFICE

OCCUPATIONAL HEALTH STANDARDS--VINYL CHLORIDE

R 325.51401
Source: 2013 AACS.

R 325.51401a
Source: 2013 AACS.

R 325.51402
Source: 2013 AACS.

R 325.51403
Source: 1998-2000 AACS.

R 325.51404
Source: 2013 AACS.

R 325.51405
Source: 2013 AACS.

R 325.51406
Source: 2013 AACS.

R 325.51407
Source: 2013 AACS.

R 325.51408
Source: 1998-2000 AACS.

R 325.51409
Source: 2013 AACS.

R 325.51410
Source: 1998-2000 AACS.

R 325.51411
Source: 2013 AACS.

HAZARD COMMUNICATION

R 325.51411a
Source: 2013 AACS.

R 325.51412
Source: 2013 AACS.

R 325.51413
Source: 2013 AACS.

R 325.51414
Source: 2013 AACS.

FORMALDEHYDE

R 325.51451
Source: 2014 AACS.

R 325.51451a
Source: 2014 AACS.

R 325.51452
Source: 2014 AACS.

R 325.51453
Source: 1993 AACS.

R 325.51454
Source: 2014 AACS.

R 325.51455
Source: 1993 AACS.

R 325.51456
Source: 1990 AACS.

R 325.51457
Source: 2014 AACS.

REGULATED AREAS

R 325.51458
Source: 2014 AACS.

METHODS OF COMPLIANCE

R 325.51459
Source: 2014 AACS.

RESPIRATORY PROTECTION

R 325.51460
Source: 2014 AACS.

R 325.51461
Source: 2014 AACS.

R 325.51461a
Source: 2014 AACS.

PROTECTIVE EQUIPMENT AND CLOTHING

R 325.51462
Source: 2014 AACS.

R 325.51463
Source: 2014 AACS.

R 325.51463a
Source: 2014 AACS.

HYGIENE PROTECTION

R 325.51464
Source: 2014 AACS.

HOUSEKEEPING

R 325.51465
Source: 2014 AACS.

R 325.51466
Source: 1990 AACS.

R 325.51467
Source: 2014 AACS.

R 325.51468
Source: 2014 AACS.

R 325.51469
Source: 2014 AACS.

R 325.51470
Source: 2014 AACS.

R 325.51471
Source: 1993 AACS.

R 325.51472
Source: 2014 AACS.

R 325.51472a
Source: 2014 AACS.

R 325.51472b
Source: 2014 AACS.

R 325.51472c
Source: 2014 AACS.

R 325.51472d
Source: 2014 AACS.

EMPLOYEE INFORMATION AND TRAINING

R 325.51473
Source: 2014 AACS.

RECORDKEEPING

R 325.51474
Source: 2014 AACS.

R 325.51474a
Source: 2014 AACS.

R 325.51474b
Source: 2014 AACS.

R 325.51474c
Source: 2014 AACS.

R 325.51474d
Source: 2014 AACS.

R 325.51474e
Source: 2014 AACS.

R 325.51475
Source: 2014 AACS.

R 325.51476
Source: 2014 AACS.

R 325.51477
Source: 2014 AACS.

ACRYLONITRILE (AN)

R 325.51501. Scope and application.
Rule 501. (1) The rules in this part apply to all occupational exposures to acrylonitrile (AN), chemical abstracts service registry no. 000107131, except as provided in subrules (2) and (3) of this rule.
(2) The rules in this part do not apply to exposures that result solely from the processing, use, and handling of the following materials:
(a) Acrylonitrile-butadiene-styrene (ABS) resins, Styreneacrylonitrile (SAN) resins, nitrile barrier resins, solid nitrile elastomers, and acrylic and modacrylic fibers in the form of finished polymers, including products fabricated from such finished polymers.
(b) Materials made from or containing AN, or both, for which objective data is reasonably relied upon to demonstrate that the material is not capable of releasing AN in airborne concentrations of more than 1 part per million (ppm) as an 8-hour, time-weighted average under the expected conditions of processing, use, and handling which cause the greatest possible release.
(c) Solid materials made from or containing AN, or both, which will not be heated above 170 degrees Fahrenheit during handling, use, or processing.
(3) An employer who relies on the exemption in subrule (2)(b) of this rule shall maintain records of the objective data supporting that exemption and of the basis of the employer's reliance on the data, as provided in R 325.51521.
History: 1980 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51501a. Referenced standards.
Rule 1a. (1) The following Michigan occupational safety and health standards are referenced in these rules. Up to 5 copies of these standards may be obtained at no charge from the Michigan Department of Licensing and Regulatory Affairs, MIOSHA Regulatory Services Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan 48909-8143, or via the internet at website: www.michigan.gov/mioshastandards. For quantities greater than 5, the cost, at the time of adoption of these rules, is 4 cents per page.
(a) General Industry Safety Standard Part 33 "Personal Protective Equipment," R 408.13301 to R 408.13398.
(b) Occupational Health Standard Part 430 "Hazard Communication," R 325.77001 to R 325.77003.
(c) Occupational Health Standard Part 433 "Personal Protective Equipment," R 325.60001 to R 325.60013.
(d) Occupational Health Standard Part 451 "Respiratory Protection," R 325.60051 to R 325.60052.
(e) Occupational Health Standard Part 470 "Employee Medical Records and Trade Secrets," R 325.3451 to R 325.3476.

(f) Occupational Health Standard Part 474 "Sanitation," R 325.47401 to R 325.47427.
(2) Appendices A, B, C, and D to these rules are informational only and are not intended to create any additional obligations or requirements not otherwise imposed by these rules or to detract from any established obligations or requirements.
History: 2015 MR 4, Eff. March 3, 2015.

R 325.51502. Definitions.
Rule 502. As used in these rules:
(1) "Acrylonitrile" or "AN" means acrylonitrile monomer, chemical formula CH2=CHCN.
(2) "Act" means 1974 PA 154, MCL 408.1001 to MCL 408.1094.
(3) "Action level" means a concentration of AN of 1 ppm as an 8-hour, time-weighted average.
(4) "Authorized person" means any person specifically authorized by the employer whose duties require the person to enter a regulated area, or any person entering such an area as a designated representative of employees for the purpose of exercising the opportunity to observe monitoring procedures under R 325.51526.
(5) "Decontamination" means the treating of materials and surfaces by water washdown, ventilation, or other means to assure that the materials will not expose an employee to airborne concentrations of AN of more than 1 ppm.
(6) "Director" means the director of the Michigan department of licensing and regulatory affairs or his or her designee.
(7) "Emergency" means any occurrence, such as, equipment failure, rupture of containers, or failure of control equipment, which results in an unexpected massive release of AN.
(8) "Liquid AN" means AN monomer in liquid form and liquid or semiliquid polymer intermediates, including slurries, suspensions, emulsions, and solutions which are produced during the polymerization of AN.
History: 1980 AACS; 2000 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51503
Source: 1980 AACS.

R 325.51504 Rescinded.
History: 1980 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51505. Employee exposure; determination of airborne exposure levels; employer monitoring of airborne concentrations; monitoring exposure below action level; monitoring exposure at or above action level; monitoring exposure of more than permissible limits; additional monitoring; written notice to employee of exposure level; measurement accuracy.
Rule 505. (1) For the purposes of these rules, employee exposure is that exposure which would occur if the employee were not using a respirator.
(2) Determinations of airborne exposure levels shall be made from air samples that are representative of each employee's exposure to AN over an 8-hour period.
(3) An employer who has a place of employment in which AN is present shall monitor each such workplace and work operation to accurately determine the airborne concentrations of AN to which an employee may be exposed.
(4) If the monitoring required by these rules reveals that employee exposure is below the action level, an employer may discontinue monitoring for that employee.
(5) If the monitoring required by these rules reveals that employee exposure is at or above the action level but below the permissible exposure limits, an employer shall repeat such monitoring for each affected employee at least once every 6 months. An employer shall continue these measurements every 6 months until not less than 2 consecutive measurements, taken not less than 7 days apart, are below the action level, and thereafter the employer may discontinue monitoring for that employee.
(6) If the monitoring required by these rules reveals that employee exposure is in excess of the permissible exposure limits, an employer shall repeat these determinations for each such employee at least quarterly. An employer shall continue these quarterly measurements until not less than 2 consecutive measurements, taken not less than 7 days apart, are below the permissible exposure limits, and thereafter an employer shall monitor at least once every 6 months.
(7) If there is a production, process, control, or personnel change which may result in new or additional exposures to AN, additional monitoring that complies with these rules shall be conducted.
(8) Within 15 working days after the receipt of the results of monitoring required by these rules, an employer shall notify each employee in writing of the results of these rules which represent that employee's exposure.

(9) If the results indicate that the representative employee exposure exceeds the permissible exposure limits, an employer shall include in the written notice a statement that the permissible exposure limits were exceeded and a description of the corrective action being taken to reduce exposure to or below the permissible exposure limits.
(10) The method of measurement of employee exposure shall be accurate to a confidence level of 95% to within plus or minus 35% for concentrations of AN at or above the permissible exposure limits, and plus or minus 50% for concentrations of AN below the permissible exposure limits.
History: 1980 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51506
Source: 1980 AACS.

R 325.51507. Engineering and work practice controls to control employee exposure.
Rule 507. (1) An employer shall institute engineering and work practice controls to reduce and maintain employee exposures to AN at or below the permissible exposure limits, except to the extent that an employer establishes that such controls are not feasible.
(2) If the engineering and work practice controls that can be instituted are not sufficient to reduce employee exposures to or below the permissible exposure limits, an employer shall nonetheless use them to reduce exposures to the lowest levels achievable by these controls and shall supplement the controls by the use of respiratory protection that complies with the requirements of R 325.51509.
History: 1980 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51508. Employee exposure; written program to reduce exposure by means of engineering and work practice controls required; content; completion of program; availability; revision and update.
Rule 508. (1) An employer shall establish and implement a written program to reduce employee exposures to or below the permissible exposure limits solely by means of engineering and work practice controls, as required by R 325.51507.
(2) A written program shall include, at a minimum, all of the following:
(a) A description of each operation or process resulting in employee exposure to AN above the permissible exposure limits.
(b) An outline of the nature of the engineering controls and work practices to be applied to the operation or process in question.
(c) A report of the technology considered for meeting the permissible exposure limit.
(d) Other relevant information.
(3) An employer shall complete the steps set forth in the written program by the dates in the schedule.
(4) A written program shall be submitted to the director upon request and shall be available at the worksite for examination and copying by the director or any affected employee or representative.
(5) The written program required by this rule shall be revised and updated at least annually to reflect the current status of the program.
History: 1980 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51509. Respiratory protection.
Rule 509. (1) For employees who use respirators required by these rules, the employer shall select and provide each employee an appropriate respirator that complies with the requirements of these rules. An employer shall ensure that employees use respirators during all of the following:
(a) Periods necessary to install or implement feasible engineering and work practice controls.
(b) Work operations, such as maintenance and repair activities or reactor cleaning, for which the employer establishes that engineering and work practice controls are not feasible.
(c) Work situations for which feasible engineering and work practice controls are not yet sufficient to reduce an employee's exposure to or below the permissible exposure limits.
(d) Emergencies.
(2) For escape, the employer shall provide employees with any organic vapor respirator or any self-contained breathing apparatus permitted for use by these rules.
(3) The employer shall implement a respiratory protection program in accordance with Occupational Health Standard Part 451 "Respiratory Protection," as referenced in R 325.51501a, which covers each employee required by these rules to use a respirator.
(4) If air-purifying respirators (chemical-cartridge or chemical canister types) are used, then both of the following apply:

(a) The air-purifying canister or cartridge must be replaced prior to the expiration of its service life or at the completion of each shift, whichever occurs first.
(b) A label must be attached to the cartridge or canister to indicate the date and time at which it is first installed on the respirator

History: 1980 AACS; 2000 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51510. Emergency situations; written plans; alarms.
Rule 510. (1) An employer shall develop written plan for emergency situations for each workplace where liquid AN is present. Appropriate portions of the plan shall be implemented in the event of an emergency.
(2) The plan shall specifically provide that an employee who is engaged in correcting an emergency condition shall be equipped as required in R 325.51509 until the emergency has abated.
(3) An employee who is not engaged in correcting the emergency shall be evacuated from the area and shall not be permitted to return until the emergency has abated.
(4) If the possibility of employee exposure to AN in excess of the ceiling limit exists, the employer shall install a general alarm and use it to promptly alert employees of such occurrences.

History: 1980 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51511. Protective clothing and equipment; provision and use.
Rule 511. Where eye or skin contact with liquid AN might occur, an employer shall provide, at no cost to the employee, and shall assure that employees wear, impermeable protective clothing or other equipment to protect any area of the body that may come in contact with liquid AN. The employer shall comply with General Industry Safety Standard Part 33 "Personal Protective Equipment," as referenced in R 325.51501a.

History: 1980 AACS; 1993 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51512
Source: 1980 AACS.

R 325.51513. Hygiene facilities and practices; change rooms; showers.
Rule 513. (1) All surfaces shall be maintained of visible accumulations of liquid AN.
(2) An employer shall institute a program for detecting leaks and spills of liquid AN, including regular visual inspections, for operations involving liquid AN.
(3) If a spill of liquid AN is detected, an employer shall assure that surfaces contacted by the liquid AN are decontaminated. An employee who is not engaged in decontamination activities shall leave the area of the spill and shall not be permitted in the area until decontamination is completed.
(4) AN waste, scrap, debris, bags, containers, or equipment shall be decontaminated before being incorporated in the general waste disposal system.
(5) If an employee is exposed to an airborne concentration of AN above the permissible exposure limit, or if an employee is required to wear protective clothing or equipment pursuant to R 325.51511, the facilities required by Occupational Health Standard Part 474 "Sanitation," as referenced in R 325.51501a, including clean change rooms and shower facilities, shall be provided by an employer for use by such employees, and the employer shall assure that the employees use the facilities provided.
(6) An employer shall assure that an employee who wears protective clothing or equipment for protection from skin contact with liquid AN showers at the end of the work shift.
(7) An employer shall assure that, in the event of skin or eye exposure to liquid AN, an affected employee showers immediately to minimize the danger of skin absorption.
(8) An employer shall assure that an employee working in the regulated area washes his or her hands and face before eating.

History: 1980 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51514
Source: 1980 AACS.

R 325.51515
Source: 1980 AACS.

R 325.51516. Medical surveillance program; periodic and additional examinations.
Rule 516. (1) An employer shall provide the examinations specified in R 325.51515 at least annually for all employees specified in R 325.51514.
(2) If an employee has not had the examination specified in R 325.51515 within 6 months preceding termination of employment, an employer shall make such examination available to the employee before termination.
(3) If for any reason an employee develops signs or symptoms which may be associated with exposure to AN, an employer shall provide an appropriate examination and emergency medical treatment.
History: 1980 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51517. Medical surveillance program; information provided to physician by employer.
Rule 517. An employer shall provide all of the following information to the examining physician:
(a) A copy of these rules and related appendices which may be obtained from the department of licensing and regulatory affairs.
(b) A description of an affected employee's duties as they relate to the employee's exposure.
(c) The employee's representative exposure level.
(d) The employee's anticipated or estimated exposure level for preplacement examinations or for cases of exposure due to an emergency.
(e) A description of any personal protective equipment used or to be used.
(f) Information from previous medical examinations of the affected employee which is not otherwise available to the examining physician.
History: 1980 AACS; 2000 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51518
Source: 1980 AACS.

R 325.51519. Employee information and training program; applicability; provision of information to employees; availability of rules and other materials to employees and director.
Rule 519. (1) An employer shall institute a training and information program and ensure the participation of all employees in the program, as follows:
(a) Each employee exposed to AN above the action level.
(b) Each employee whose exposures are maintained below the action level by engineering and work practice controls.
(c) Each employee subject to potential skin or eye contact with liquid AN. All training shall be in accordance with the requirements of these rules.
(2) Training shall be provided at the time of initial assignment or upon institution of the training program and at least once annually thereafter.
(3) The employer shall assure that each employee is informed of all of the following:
(a) The information contained in appendices A and B of these rules. Appendices A and B are available from the department of licensing and regulatory affairs.
(b) The quantity, location, manner of use, release, or storage of AN, and the specific nature of operations which could result in exposure to AN, as well as any necessary protective steps.
(c) The purpose, proper use, and limitations of respirators and protective clothing.
(d) The purpose and a description of the medical surveillance program required by these rules.
(e) The emergency procedures developed, as required by R 325.51510.
(f) Engineering and work practice controls, their function, and an employee's relationship to these controls.
(g) A review of these rules.
(4) An employer shall make a copy of these rules and appendices readily available to all affected employees.
(5) Upon request, an employer shall provide all materials relating to the employee information and training program to the director.
History: 1980 AACS; 2000 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51519a. Hazard communication--general.
Rule 519a. (1) Chemical manufacturers, importers, distributors and employers shall comply with all requirements of the Occupational Health Standard Part 430 "Hazard Communication," as referenced in R 325.51501a, for AN and AN-based materials not exempted under R 325.51501(1).
(2) In classifying the hazards of AN and AN-based materials at least all of the following hazards must be addressed:
(a) Cancer.

(b) Central nervous system effects.
(c) Liver effects.
(d) Skin sensitization.
(e) Skin, respiratory, and eye irritation.
(f) Acute toxicity effects.
(g) Flammability.
(3) An employer shall include AN and AN-based materials in the hazard communication program established to comply with the Occupational Health Standard Part 430 "Hazard Communication." An employer shall ensure that each employee has access to labels on containers of AN and AN-based materials and to safety data sheets. An employer shall ensure that each employee is trained in accordance with the requirements of R 325.51519 and Occupational Health Standard Part 430 "Hazard Communication," as referenced in R 325.51501a.
(4) The employer shall ensure that no statement appears on or near any sign or label required by these rules that contradicts or detracts from the required sign or label.

History: 2015 MR 4, Eff. March 3, 2015.

R 325.51520. Signs and labels.

Rule 520. (1) An employer shall post signs to clearly indicate all workplaces where AN concentrations exceed the permissible exposure limits. The signs shall bear the following legend:

DANGER
ACRYLONITRILE (AN)
MAY CAUSE CANCER
RESPIRATORY PROTECTION MAY BE REQURED
IN THIS AREA
AUTHORIZED PERSONNEL ONLY

(2) Prior to June 1, 2016, an employer may use the following legend in lieu of that specified in subrule (1) of this rule.

DANGER
ACRYLONITRILE (AN)
CANCER HAZARD
AUTHORIZED PERSONNEL ONLY
RESPIRATORS MAY BE REQUIRED

(3) An employer shall ensure that signs required by this rule are illuminated and cleaned as necessary so that the legend is readily visible.
(4) An employer shall ensure that precautionary labels are in compliance with R 325.51519a(1) and are affixed to all containers of liquid AN and AN-based materials which are not exempted under R 325.51501. The employer shall ensure that the labels remain affixed when the materials are sold, distributed, or otherwise leave the employer's workplace.
(5) Prior to June 1, 2015, an employer may include the following information on precautionary labels required by subrule (4) of this rule in lieu of the labeling requirements in R 325.51519a:

DANGER
CONTAINS ACRYLONITRILE (AN)
CANCER HAZARD

(6) An employer shall ensure that the precautionary labels required by these rules are readily visible and legible.
(7) An employer shall ensure that statements do not appear on or near any sign or label required by this rule which contradict or detract from the required sign or label.
(8) An employer may use labels or signs required by other statutes, rules, or ordinances in addition to, or in combination with, signs and labels required by this rule.

History: 1980 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51521. Operations exempted under R 325.51501; records of objective data required; maintenance.
Rule 521. (1) If the processing, use, and handling of materials made from or containing AN are exempted pursuant to R 325.51501, an employer shall establish and maintain an accurate record of the objective data reasonably relied upon in support of the exemption which shall include, at a minimum, all of the following information:
(a) The material qualifying for exemption.
(b) The source of the objective data.
(c) The testing protocol and the results of the testing or an analysis of the material, or both, for the release of AN.
(d) A description of the operation exempted and how the data supports the exemption.
(e) Other data relevant to the operations, materials, and processing covered by the exemption.
(2) An employer shall maintain the record for the duration of the employer's reliance upon such objective data.
History: 1980 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51522. Monitoring of exposure; records; maintenance.
Rule 522. (1) An employer shall establish and maintain an accurate record of all monitoring required by R 325.51505. The exposure monitoring record shall include all of the following:
(a) The dates, number, duration, and results of each of the samples taken, including a description of the sampling procedure used to determine representative employee exposure.
(b) A description of the sampling and analytical methods used and the data relied upon to establish that the methods used meet the accuracy and precision requirements of R 325.51505(10).
(c) Type of respiratory protective devices worn, if any.
(d) Name, social security number, and job classification of the employee monitored and of all other employees whose exposure the measurement is intended to represent.
(2) An employer shall maintain the record for not less than 40 years or for the duration of employment plus 20 years, whichever is longer.
History: 1980 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51523. Medical surveillance records; maintenance.
Rule 523. (1) An employer shall establish and maintain an accurate record for each employee subject to medical surveillance as required by R 325.51514 to R 325.51516. The medical surveillance record shall include all of the following:
(a) A copy of the physician's written opinion.
(b) Any employee medical complaints related to exposure to AN.
(c) A copy of the information provided to the physician as required by R 325.51517.
(d) A copy of the employee's medical and work history.
(2) An employer shall assure that the record is maintained for not less than 40 years or the duration of employment plus 20 years, whichever is longer.
History: 1980 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51524. Availability of records.
Rule 524. (1) Upon request, an employer shall make all records that are required to be maintained by these rules available to the director for examination and copying.
(2) Upon request, an employer shall make records that are required to be maintained by R 325.51521 to R 325.51523 available to affected employees, former employees, or their designated representatives for examination and copying in accordance with the provisions of Occupational Health Standard Part 470 "Employee Medical Records and Trade Secrets," as referenced in R 325.51501a.
(3) Records that are required pursuant to the provisions of R 325.51521 shall be provided in the same manner as exposure monitoring records.
History: 1980 AACS; 1993 AACS; 2015 MR 4, Eff. March 3, 2015

R 325.51525. Retention and disposal of records; successor employer; transmittal and notice to director.
Rule 525. (1) If an employer ceases to do business, then the successor employer shall receive and retain all records that are required to be maintained by these rules for the prescribed period.
(2) The transfer of records and notification to employees shall be accomplished in accordance with the provisions of Occupational Health Standard Part 470 "Employee Medical Records and Trade Secrets," as referenced in R 325.51501a.

History: 1980 AACS; 1993 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51526. Exposure monitoring; employee observation.
Rule 526. (1) An employer shall provide affected employees or their designated representatives with an opportunity to observe any monitoring of employee exposure to AN which is conducted pursuant to R 325.51505.
(2) If the observation of the monitoring of employee exposure to AN requires entry into an area where the use of protective clothing or personal protective clothing and equipment required to be worn by employees working in the area, the employer shall assure the use of such clothing and equipment, and shall require the observer to comply with all other applicable safety and health procedures.
(3) If the monitoring is not interfered with, observers shall be entitled to all of the following:
(a) To receive an explanation of the measurement procedures.
(b) To observe all steps related to the measurement of airborne concentrations of AN performed at the place of exposure.
(c) To record the results obtained.
History: 1980 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51527 Rescinded.
History: 1980 AACS; 1993 AACS; 2000 AACS; 2015 MR 4, Eff. March 3, 2015.

INORGANIC ARSENIC (AS)

R 325.51601
Source: 1993 AACS.

R 325.51601a
Source: 2014 AACS.

R 325.51602
Source: 2014 AACS.

R 325.51603
Source: 1980 AACS.

R 325.51604
Source: 2014 AACS.

R 325.51605
Source: 2014 AACS.

R 325.51606
Source: 2014 AACS.

R 325.51607
Source: 1980 AACS.

R 325.51608
Source: 1980 AACS.

R 325.51609
Source: 2014 AACS.

R 325.51610
Source: 2014 AACS.

R 325.51611
Source: 2014 AACS.

R 325.51611a
Source: 2014 AACS.

R 325.51612
Source: 1998-2000 AACS.

R 325.51613
Source: 1998-2000 AACS.

R 325.51614
Source: 2014 AACS.

R 325.51614a
Source: 2014 AACS.

R 325.51615
Source: 1980 AACS.

R 325.51616
Source: 2014 AACS.

R 325.51617
Source: 1980 AACS.

R 325.51618
Source: 2014 AACS.

R 325.51619
Source: 2014 AACS.

R 325.51620
Source: 1980 AACS.

R 325.51621
Source: 1980 AACS.

R 325.51622
Source: 2014 AACS.

R 325.51623
Source: 2014 AACS.

HAZARD COMMUNICATIONS

R 325.51623a
Source: 2014 AACS.

R 325.51623b
Source: 2014 AACS.

R 325.51624
Source: 2014 AACS.

R 325.51625
Source: 2014 AACS.

R 325.51626

Source: 2014 AACS.

R 325.51627
Source: 1980 AACS.

R 325.51628
Source: 2014 AACS.

DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

OCCUPATIONAL HEALTH STANDARDS COMMISSION

METHYLENE CHLORIDE

R 325.51651
Source: 2013 AACS.

R 325.51652
Source: 2013 AACS.

R 325.51653
Source: 2013 AACS.

CADMIUM

R 325.51851
Source: 2013 AACS.

R 325.51851a
Source: 2013 AACS.

R 325.51852
Source: 2013 AACS.

R 325.51853
Source: 1993 AACS.

R 325.51854
Source: 2013 AACS.

R 325.51855
Source: 1998-2000 AACS.

R 325.51856
Source: 2013 AACS.

R 325.51857
Source: 1993 AACS.

R 325.51858
Source: 1998-2000 AACS.

R 325.51859
Source: 2013 AACS.

R 325.51860

Source: 2013 AACS.

R 325.51861
Source: 1993 AACS.

R 325.51862
Source: 2013 AACS.

R 325.51863
Source: 2013 AACS.

R 325.51864
Source: 1993 AACS.

R 325.51865
Source: 2013 AACS.

R 325.51866
Source: 2013 AACS.

R 325.51867
Source: 2013 AACS.

R 325.51868
Source: 2013 AACS.

R 325.51869
Source: 2013 AACS.

R 325.51870
Source: 1998-2000 AACS.

R 325.51871
Source: 1993 AACS.

R 325.51872
Source: 1998-2000 AACS.

R 325.51873
Source: 2013 AACS.

R 325.51874
Source: 2013 AACS.

R 325.51875
Source: 1998-2000 AACS.

R 325.51876
Source: 1993 AACS.

R 325.51877
Source: 1993 AACS.

R 325.51878
Source: 1993 AACS.

R 325.51878a

Source: 2013 AACS.

R 325.51879
Source: 2013 AACS.

R 325.51880
Source: 2013 AACS.

R 325.51881
Source: 2013 AACS.

R 325.51882
Source: 1993 AACS.

R 325.51883.
Source: 2013 AACS.

R 325.51884
Source: 1993 AACS.

R 325.51885
Source: 2013 AACS.

R 325.51886
Source: 2013 AACS.

LEAD

R 325.51901
Source: 1998-2000 AACS.

R 325.51902. Definitions.
Rule 2. (1) As used in these rules:
(a) "Act" means 1974 PA 154, MCL 408.1001 to 408.1094.
(b) "Action level" means employee exposure, without regard to the use of respirators, to an airborne concentration of lead of 30 micrograms per cubic meter (30 ug/m3) of air averaged over an 8-hour period.
(c) "Chelate" means a compound that will inactivate a metallic ion by forming an inner ring structure in the molecule whereby the metal ion becomes a member of the ring and the original ion is effectively out of action.
(d) "Department" means the department of licensing and regulatory affairs.
(e) "Director" means the director of the department or his or her designee.
(f) "Lead" means metallic lead, all inorganic lead compounds, and organic lead soaps. Lead does not include any other organic lead compounds.
(g) "Zinc protoporphyrin" or "ZPP" means the metabolite formed when a zinc molecule instead of an iron molecule combines with the protoporphyrin molecule. ZPP gives an indication of the biological effect of lead absorption on heme synthesis. Heme is the basic component of both hemoglobin, which functions in the transportation of oxygen from the lungs to the body cells, and the cytochromes, which function in the respiration of the individual cells.
(2) The terms defined in the act have the same meanings when used in these rules.
History: 1981 AACS; 1987 AACS; 1998-2000 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51902a. MIOSHA standards by reference, appendices.
Rule 2a. (1) The following Michigan occupational safety and health administration (MIOSHA) standards are referenced in these rules. Up to 5 copies of these standards may be obtained at no charge from the Michigan Department of Licensing and Regulatory Affairs, MIOSHA Regulatory Services Section, 7150 Harris Drive, P.O. Box 30643, Lansing, MI, 48909-8143 or via the internet at website: www.michigan.gov/mioshastandards. For quantities greater than 5, the cost, at the time of adoption of these rules, is 4 cents per page.
(a) General Industry Safety Standard Part 33 "Personal Protective Equipment," R 408.13301 to R 408.13398.

(b) Occupational Health Standard Part 433 "Personal Protective Equipment," R 325.60001 to R 325.60013.
(c) Occupational Health Standard Part 470 "Employee Medical Records and Trade Secrets," R 325.3451 to R 325.3476.
(d) Occupational Health Standard Part 451 "Respiratory Protection," R 325.60051 to R 325.60052.
(e) Occupational Health Standard Part 474 "Sanitation," R 325.47401 to R 325.47425.
(2) The information contained in appendices A, B, and C to C.F.R. §1910.1025 "Lead," are not intended by themselves, to create any additional obligations not otherwise imposed by these rules nor detract from any existing obligation.
History 2015 MR 4, Eff. March 3, 2015.

PERMISSIBLE EXPOSURE LIMIT (PEL).

R 325.51903. Airborne concentrations.
Rule 3. (1) An employer shall assure that an employee will not be exposed to lead at a concentration of more than 50 micrograms per cubic meter (50 ug/m^3) of air, averaged over an 8-hour period.
(2) If an employee is exposed to lead for more than 8 hours in any workday, then the permissible employee exposure limit as a time-weighted average for that day shall be reduced in accordance with formula A.
(3) Formula A reads as follows:

Maximum permissible employee exposure limit (in ug/m^3)
= 400 hours ÷ hours worked in the day.

History: 1981 AACS; 1987 AACS; 1998-2000 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51904. Use of respirators.
Rule 4. If respirators are used to supplement engineering and work practice controls to comply with the permissible employee exposure limit, and if all of the requirements of R325.51917 have been met, then employee exposure, for the purpose of determining if an employer has complied with the permissible employee exposure limit, may be considered to be at the level provided by the protection factor of the respirator for those periods the respirator is worn. Those periods the respirator is worn may be averaged with exposure levels during periods when respirators are not worn to determine an employee's daily time-weighted average exposure to lead.
History: 1981 AACS; 1998-2000 AACS; 2015 MR 4, Eff. March 3, 2015.

EXPOSURE MONITORING

R 325.51905. Exposure monitoring generally.
Rule 5. (1) For purposes of this rule and R 325.51906 to R 325.51913, employee exposure to lead shall be the exposure that might occur if an employee did not use a respirator.
(2) Except for exposure monitoring under R 325.51907, an employer shall collect personal samples that are representative of the full shift exposure for each worker for each shift in each work area in accordance with recognized industrial hygiene practices. As used in this subrule, "full shift" means not less than 7 continuous hours.
(3) Personal samples shall be representative of a monitored employee's regular daily exposure to lead.
History: 1981 AACS; 1987 AACS; 1998-2000 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51906. Initial determination.
Rule 6. An employer who has a workplace or work operation subject to these rules shall determine if an employee might be exposed to lead at or above the action level.
History: 1981 AACS; 1987 AACS; 1998-2000 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51907. Basis of initial determination.
Rule 7. (1) An employer shall monitor employee exposures and shall base initial determinations on employee exposure monitoring results and on any of the following considerations:
(a) Information, observations, or calculations that would indicate employee exposure to lead.
(b) Previous measurements of airborne lead.
(c) Employee complaints of symptoms that may be attributable to exposure to lead.

(2) Monitoring for the initial determination may be limited to a representative sample of those exposed employees who an employer reasonably believes are exposed to the greatest airborne lead concentrations of lead in the workplace.
(3) Measurements of airborne lead concentrations made in the preceding 12 months may be used to satisfy the requirement to monitor pursuant to subrule (1) of this rule, if the sampling and analytical methods used meet the accuracy and confidence levels required by R 325.51913.
History: 1981 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51908. Positive initial determination and initial monitoring.
Rule 8. (1) If a determination conducted under R 325.51906 and R 325.51907 shows the possibility of employee exposure to lead at or above the action level, then an employer shall conduct monitoring that is representative of the exposure for each employee in the workplace who is exposed to lead.
(2) Measurements of airborne lead concentrations made in the preceding 12 months may be used to satisfy the requirement to monitor under subrule (1) of this rule if the sampling and analytical methods used meet the accuracy and confidence levels required by R 325.51913.
History: 1981 AACS; 1987 AACS; 1998-2000 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51909. Negative initial determination.
Rule 9. If a determination is made, pursuant to R 325.51906 and R 325.51907, that employees are not exposed to airborne concentrations of lead at or above the action level, an employer shall make a written record of that determination. The record shall include the information required pursuant to R 325.51907 and shall also include all of the following:
(a) The date of the determination.
(b) The job descriptions and location within the worksite.
(c) The name and social security number of each employee monitored.
History: 1981 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51910. Frequency.
Rule 10. (1) If initial monitoring reveals employee exposure to be below the action level, the measurements need not be repeated, except as provided pursuant to R 325.51911.
(2) If an initial determination or subsequent monitoring reveals employee exposure to be at or above the action level, but below the permissible employee exposure limit, an employer shall repeat monitoring in accordance with this rule, R 325.51905 to R 325.51909, and R 325.51911 to R 325.51913 at least once every 6 months. The employer shall continue monitoring at the required frequency until not less than two consecutive measurements, taken not less than 7 days apart, are below the action level, at which time the employer may discontinue monitoring for that employee, except as provided pursuant to R 325.51911.
(3) If initial monitoring reveals that employee exposure is above the permissible employee exposure limit, an employer shall repeat monitoring quarterly. The employer shall continue monitoring at the required frequency until not less than two consecutive measurements, taken not less than 7 days apart, are below the permissible employee exposure limit, but at or above the action level. At that time, the employer shall repeat monitoring for that employee at the frequency prescribed by subrule (2) of this rule, except as otherwise provided pursuant to R 325.51911.
History: 1981 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51911
Source: 1981 AACS.

R 325.51912. Employee notification.
Rule 12. (1) The employer must, within 15 working days after the receipt of the results of any monitoring performed under these rules, notify each affected employee of these results either individually in writing or by posting the results in an appropriate location that is accessible to affected employees.
(2) If the monitoring results indicate that employee exposure, without regard to respirators, exceeds the permissible employee exposure limit, an employer shall include in the written notice required by subrule (1) of this rule a statement that the permissible employee exposure limit was exceeded and a description of the corrective action taken or to be taken to reduce exposure to at or below the permissible employee exposure limit.
History: 1981 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51913. Accuracy of measurement.

Rule 13. An employer shall use a method of monitoring and analysis which has an accuracy, to a confidence level of 95%, of not less than plus or minus 20% for airborne concentrations of lead equal to or greater than 30 micrograms per cubic meter (30 ug/m^3) of air.

History: 1981 AACS; 2015 MR 4, Eff. March 3, 2015.

METHODS OF COMPLIANCE

R 325.51914. Engineering and work practice controls.

Rule 14. (1) If an employee is exposed to lead above the permissible exposure limit for more than 30 days each year, then the employer shall implement engineering and work practice controls, including administrative controls, to reduce and maintain employee exposure to at or below 50 ug/m^3; except employers in the brass and bronze ingot manufacture industry and small non-ferrous foundries, who must reduce and maintain employee exposure to at or below 75 ug/m^3 in accordance with Table 1 of this rule, except to the extent that the employer can demonstrate that the controls are not feasible. If the engineering and work practice controls that can be instituted are not sufficient to reduce employee exposure to at or below the permissible exposure limit, then the employer shall use the controls to reduce exposures to the lowest feasible level and shall supplement the controls by using respiratory protection that is in compliance with the requirements of R 325.51917.

(2) If an employee is exposed to lead above the permissible exposure limit for 30 days or less each year, then the employer shall implement engineering controls to reduce exposures to at or below 200 ug/m^3, but thereafter may implement any combination of engineering, work practice, including administrative controls, and respiratory controls to reduce and maintain employee exposure to lead to at or below 50 ug/m^3.

(3) Table 1 reads as follows:

TABLE 1 - IMPLEMENTATION SCHEDULE

INDUSTRY	COMPLIANCE DATES		
	50 ug/m	75 ug/m	200 ug/m
Large Non-Ferrous Foundries	7/19/96[1]	N/A	N/A
Small Non-Ferrous Foundries	N/A	7/19/96[1]	N/A
Brass and Bronze Ingot Manufacture	N/A	6 years[2]	3/1/79

[1] Large non-ferrous foundries that have 20 or more employees shall achieve 50 ug/m^3 by means of engineering and work practice controls. Small non-ferrous foundries that have fewer than 20 employees, however, are only required to achieve 75 ug/m^3 by means of engineering and work practice controls.

[2] Expressed as the number of years from the date on which the Court lifts the stay on the implementation of paragraph 1910.1025(e)(1) of the Code of Federal Regulations for this industry for employers to achieve a lead-in-air concentration of 75 ug/m^3. Compliance with paragraph 1910.1025(e)(1) in this industry is determined by a compliance directive that incorporates the elements from the settlement agreement between OSHA and industry representatives.

(4) If engineering and work practice controls do not reduce employee exposure to at or below the 50 micrograms per cubic meter (50 ug/m^3) of air permissible employee exposure limit, then an employer shall supplement the controls with respirators in accordance with the provisions of R 325.51917.

History: 1981 AACS; 1984 AACS; 1987 AACS; 1998 AACS; 2000 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51915. Compliance program.

Rule 15. (1) An employer shall establish and implement a written compliance program to reduce exposures to at or below the permissible employee exposure limit prescribed by R 325.51903, and interim levels if applicable, solely by means of engineering and work practice controls in accordance with the implementation schedule prescribed in R 325.51914.

(2) The written compliance program shall include at least all of the following:

(a) A description of each workplace operation in which lead is emitted, including, but not limited to, all of the following:
(i) Machinery used.
(ii) Material processed.
(iii) Controls in place.
(iv) Crew size.
(v) Employee job responsibilities.
(vi) Operating procedures.
(vii) Maintenance practices.
(b) A description of the specific means that will be employed to achieve compliance, including engineering plans and studies used to determine methods selected for controlling exposure to lead.
(c) A report of the technology considered in meeting the permissible employee exposure limit.
(d) Air monitoring data which documents the source of lead emissions.
(e) A detailed schedule for implementation of the compliance program, including documentation of purchase orders for equipment, construction contracts, and other means of implementation.
(f) A work practice program which includes items required pursuant to R 325.51922 to R 325.51931a.
(g) An administrative control schedule required by R 325.51916b.
(h) Other relevant information.
(3) Written compliance programs shall be submitted, upon request, to the director and shall be available at the workplace for examination and copying by the director, an affected employee, or authorized employee representative.
(4) Written programs shall be revised and updated at least annually to reflect the current status of the program.
History: 1981 AACS; 1984 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51916
Source: 1998-2000 AACS.

R 325.51916a. Mechanical ventilation.
Rule 16a. (1) If ventilation is used to control employee exposure, measurements which demonstrate the effectiveness of the ventilation system in controlling exposure, such as capture velocity, duct velocity, or static pressure, shall be made at least once every three months. Measurements of the ventilation system's effectiveness in controlling employee exposure shall be made within five days of any change in production, process or control which might result in a change in employee exposure to lead.
(2) If air from exhaust ventilation is recirculated into the workplace, the employer shall assure all of the following:
(a) The ventilation system has a high efficiency filter with a reliable back-up filter.
(b) Controls are installed, operating, and maintained to monitor the concentration of lead in the return air and to bypass the recirculation system automatically if it fails.
History: 1984 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51916b. Administrative controls.
Rule 16b. If administrative controls are used as a means to reduce an employee's time-weighted average exposure to lead, an employer shall establish and implement a job rotation schedule which shall include all of the following information:
(a) The name or identification number of each affected employee.
(b) The duration and exposure levels at each job or work station where each affected employee is located.
(c) Other information which may be useful in assessing the reliability of administrative controls to reduce employee exposure to lead.
History: 1984 AACS; 2015 MR 4, Eff. March 3, 2015.

RESPIRATORY PROTECTION

R 325.51917. Respiratory protection; respirator program.
Rule 17. (1) For employees who use respirators required by these rules, the employer must provide each employee an appropriate respirator that complies with the requirements of these rules. Respirators must be used during all of the following:
(a) Periods necessary to install or implement engineering or work practice controls.
(b) Work operations for which engineering and work practice controls are not sufficient to reduce employee exposures to or below the permissible employee exposure limit.

(c) Periods when an employee requests a respirator.
(2) An employer shall implement a respiratory protection program in accordance with Occupational Health Standard Part 451 "Respiratory Protection," subrules (b) to (d) and (f) to (m), except for (d)(1)(iii), as referenced in R 325.51902a, which covers each employee required by these rules to use a respirator.
(3) If an employee has breathing difficulty during fit testing or respirator use, then the employer shall provide the employee with a medical examination in accordance with R 325.51937(c) to determine whether or not the employee can use a respirator while performing the required duty.
History: 1981 AACS; 1988 AACS; 1990 AACS; 1998-2000 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51918. Respirator selection.
Rule 18. (1) Employers must do all of the following:
(a) Select, and provide to employees, the appropriate respirators specified in Occupational Health Standard Part 451 "Respiratory Protection," as referenced in R 325.51902a.
(b) Provide employees with full facepiece respirators instead of half mask respirators for protection against lead aerosols that cause eye or skin irritation at the use concentrations.
(c) Provide HEPA filters for powered and non-powered air-purifying respirators.
(2) Employers must provide employees with a powered air-purifying respirator (PAPR) instead of a negative pressure respirator selected according to subrule (1) of this rule, when an employee chooses to use a PAPR and it provides adequate protection to the employee as specified by subrule (1) of this rule.
History: 1981 AACS; 1988 AACS; 1990 AACS; 1998-2000 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51919
Source: 1998-2000 AACS.

R 325.51920
Source: 1998-2000 AACS.

R 325.51921 Rescinded.
History: 1981 AACS; 2000 AACS; 2015 MR 4, Eff. March 3, 2015.

PROTECTIVE WORK CLOTHING AND EQUIPMENT

R 325.51922. Provision and use.
Rule 22. If an employee is exposed to lead above the permissible employee exposure limit prescribed by R 325.51903, without regard to the use of respirators, or if the possibility of skin or eye irritation exists, an employer shall provide, at no cost to the employee, and shall assure that the employee uses, appropriate protective work clothing and equipment, including all of the following:
(a) Coveralls or similar full-body work clothing.
(b) Gloves, hats, and shoes or disposable shoe coverings.
(c) Face shields, vented goggles or other appropriate protective equipment which complies with General Industry Safety Standard Part 33 "Personal Protective Equipment," and Occupational Health Standard Part 433 "Personal Protective Equipment," as referenced in R 325.51902a.
History: 1981 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51923. Cleaning and replacement.
Rule 23. (1) An employer shall provide employees with the protective clothing required pursuant to R 325.51922 in a clean and dry condition at least once each week. For employees who are exposed to airborne concentrations of lead, without regard to the use of a respirator, greater than 200 micrograms per cubit meter (200 ug/m^3) of air as an 8-hour, time-weighted average, protective clothing in a clean and dry condition shall be provided at least once each day.
(2) An employer shall provide for the cleaning, laundering, or disposal of protective clothing and equipment required pursuant to R 325.51922.
(3) An employer shall repair or replace required protective clothing and equipment as often as needed to maintain the effectiveness of the clothing and equipment.
(4) An employer shall assure both of the following:
(a) That an employee removes all protective clothing at the completion of a work shift and only in a change room of the type described in R 325.51929.

(b) That contaminated protective clothing which is to be cleaned, laundered, or disposed of is placed in a closed container which prevents the dispersion of lead outside of the container.

History: 1981 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51924. Cleaning.

Rule 24. (1) An employer shall inform a person who cleans or launders protective clothing or equipment, in writing, of the potentially harmful effects of exposure to lead.

(2) An employer shall prohibit the removal of lead from protective clothing or equipment by blowing, shaking, or other methods which may disperse lead into the air.

History: 1981 AACS; 1988 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51924a. Labeling of contaminated protective clothing and equipment.

Rule 24a (1) The employer shall ensure that labels of bags or containers of contaminated protective clothing and equipment include the following information:

DANGER:
CLOTHING AND EQUIPMENT CONTAMINATED WITH LEAD.
MAY DAMAGE FERTILITY OR THE UNBORN CHILD.
CAUSES DAMAGE TO THE CENTRAL NERVOUS SYSTEM.
DO NOT EAT, DRINK OR SMOKE WHEN HANDLING.
DO NOT REMOVE DUST BY BLOWING OR SHAKING.
DISPOSE OF LEAD CONTAMINATED WASH WATER IN ACCORDANCE WITH APPLICABLE LOCAL, STATE, OR FEDERAL REGULATIONS.

(2) Prior to June 1, 2015, employers may include the following information on bags or containers of contaminated protective clothing and equipment in lieu of the labeling requirements in subrule (1) of this rule:

CAUTION:
CLOTHING OR EQUIPMENT CONTAMINATED WITH LEAD.
DO NOT REMOVE DUST BY BLOWING OR SHAKING.
DISPOSE OF LEAD CONTAMINATED WASH WATER.
IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE, OR LOCAL REGULATIONS.

History: 2015 MR 4, Eff. March 3, 2015.

HOUSEKEEPING

R 325.51925. Workplace surfaces.

Rule 25. Surfaces in a workplace shall be maintained as free as practicable from accumulations of lead.

History: 1981 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51926. Floor cleaning; vacuuming.

Rule 26. (1) Floors and other surfaces where lead may accumulate in a workplace shall not be cleaned with the use of compressed air.

(2) Shoveling, dry or wet sweeping, and brushing may be used for cleaning a workplace only if vacuuming or other equally effective methods have been tried and found not to be effective in removing lead accumulations.

(3) If vacuuming methods are selected for cleaning a workplace, a vacuum shall be used and emptied in a manner which minimizes the reentry of lead into the workplace.

History: 1981 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51927

Source: 1981 AACS.

R 325.51928. Prohibition of personal items in lead work areas.

Rule 28. An employer shall assure that food or beverages are not present or consumed, tobacco products are not present or used, and cosmetics are not applied in areas where employees are exposed to lead concentrations greater than the permissible employee exposure limit prescribed by R 325.51903. These prohibitions do not apply in change rooms, lunchrooms or showers.

History: 1981 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51929. Change rooms.

Rule 29. (1) An employer shall provide clean change rooms for employees who work in areas where airborne exposures to lead are greater than the permissible employee exposure limit prescribed by R 325.51903, without regard to the use of respirators.

(2) An employer shall equip change rooms with separate storage or locker facilities for protective work clothing and equipment under R 325.51922 and for street clothes that prevent cross-contamination.

History: 1981 AACS; 1984 AACS; 1987 AACS; 1998-2000 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51930. Showers.

Rule 30. (1) An employer shall ensure that employees who work in areas where airborne exposures to lead are greater than the permissible employee exposure limit prescribed by R 325.51903, without regard to the use of respirators, shower at the end of each work shift.

(2) An employer shall provide shower facilities in accordance with the Occupational Health Standard Part 474 "Sanitation," as referenced in R 325.51902a.

(3) An employer shall ensure that an employee who is required to shower under subrule (1) of this rule does not leave the workplace wearing any of the protective work clothing or equipment required under R 325.51922 or other significantly contaminated clothing.

History: 1981 AACS; 1984 AACS; 1987 AACS; 1998-2000 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51931. Lunchrooms.

Rule 31. (1) Lunchroom facilities shall be provided by an employer for employees who work in areas where airborne exposures to lead are greater than the permissible employee exposure limit prescribed by R 325.51903, without regard to the use of respirators.

(2) The employer shall assure that lunchroom facilities have a temperature-controlled, positive-pressure, filtered air supply, unless the lunchroom facilities are remote from the lead work area such that lead contamination is not possible, and shall assure that the facilities are readily accessible to employees.

(3) Employees whose work causes significant hand or face lead contamination shall be required to wash the contaminated skin areas prior to applying cosmetics, eating, drinking, or smoking.

(4) Employees shall not enter lunchroom facilities with protective work clothing or equipment until surface lead dust has been removed by vacuuming, downdraft booth, or other appropriate cleaning method.

History: 1981 AACS; 1984 AACS; 1987 AACS; 1988 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51931a. Lavatories.

Rule 31a. An employer shall provide an adequate number of lavatory facilities that are in compliance with Occupational Health Standard Part 474 "Sanitation," as referenced in R 325.51902a.

History: 1984 AACS; 1987 AACS; 1998-2000 AACS; 2015 MR 4, Eff. March 3, 2015.

MEDICAL SURVEILLANCE

R 325.51932. Medical surveillance generally.

Rule 32. (1) An employer shall institute a medical surveillance program for each employee who is or may be exposed to concentrations of lead at or above the action level for more than 30 days a year.

(2) A licensed physician or someone under the supervision of a licensed physician shall establish procedures for, and shall perform, medical examinations.
(3) An employer shall provide the required medical surveillance, including multiple physician review under R 325.51938a, at a convenient time and place, without cost to employees.
(4) An employer shall give priority for biological monitoring and medical examinations shall be provided to employees who the employer believes are at the greatest risk from continued exposure to lead.
History: 1984 AACS; 1987 AACS; 1998-2000 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51933. Biological monitoring.
Rule 33. An employer shall make available biological monitoring in the form of blood sampling and analysis for lead and zinc protoporphyrin levels to each employee who or may be exposed to concentrations of lead greater than the action level for more than 30 days a year in accordance with the following schedule:
(a) At least once every 6 months for each employee.
(b) At least once every 2 months for each employee whose blood sample and analysis indicated a blood lead level at or above 40 micrograms per 100 grams (40 ug/100 g) of whole blood. The 2-month frequency shall continue until 2 consecutive blood samples and analyses indicate a blood level below 40 micrograms per 100 grams (40 ug/100 g) of whole blood.
(c) At least monthly during the period of time an employee is removed from exposure to lead due to an elevated blood lead level.
History: 1981 AACS; 1984 AACS; 1988 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51934. Follow-up blood sampling tests.
Rule 34. If the results of a blood lead level test indicate that an employee‘s blood lead level is at or above the numerical criterion for medical removal under R 325.51943, then an employer shall provide a second, follow-up, blood sampling test within 2 weeks after the employer receives the results of the first blood sampling test.
History: 1981 AACS; 1998-2000 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51935. Accuracy of blood lead level sampling and analysis.
Rule 35. Blood lead level sampling and analysis provided pursuant to R 325.51933 and R 325.51934 shall have an accuracy to a confidence level of 95% within plus or minus 15% or 6 micrograms per 100 milliliters (6 ug/100 ml), whichever is greater. Sample analyses shall be conducted by a laboratory licensed or approved by the center for disease control, United States department of health and human services or which has received a satisfactory grade in blood lead proficiency testing from the center for disease control in the prior 12 months.
History: 1981 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51936. Employee notifications.
Rule 36. Within 5 working days after the receipt of biological monitoring results, an employer shall notify each employee, in writing, whose blood lead level is at or above 40 micrograms per 100 grams (40 ug/100 g) of whole blood of both of the following:
(a) The employee’s blood lead level.
(b) That these rules require temporary medical removal with Medical Removal Protection benefits when an employee’s blood lead level is at or above the numerical criterion for medical removal pursuant to R 325.51943.
History: 1981 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51937. Medical examinations and consultations.
Rule 37. An employer shall make available medical examinations and consultations to each employee who is or may be exposed to concentrations of lead greater than the action level for more than 30 days a year according to the following schedule:
(a) At least annually for each employee for whom a blood sampling test conducted at any time during the previous 12 months indicated a blood lead level at or above 40 micrograms per 100 grams (40 ug/100 g) of whole blood.
(b) Prior to an employee’s being assigned for the first time to an area in which airborne concentrations of lead are at or above the action level.
(c) As soon as possible after notification by an employee that the employee has developed signs or symptoms commonly associated with lead intoxication, that the employee desires medical advice concerning the effects of current or past exposure to lead on the employee’s ability to procreate a healthy child, or that the employee has demonstrated difficulty in breathing either during a respirator fitting test or during use of a respirator.

(d) As medical appropriate for an employee who is either removed from exposure to lead due to a risk of sustaining material impairment to health or who is otherwise limited pursuant to a final medical determination.

History: 1981 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51938. Content.

Rule 38. (1) A medical examination made available pursuant to R 325.51937(a) and (b) shall include all of the following elements:

(a) A detailed work history and a medical history, with particular attention to past occupational and non-occupational lead exposure in all of the following:

(i) Personal habits (smoking, hygiene).

(ii) Past gastrointestinal.

(iii) Personal hematological.

(iv) Renal.

(v) Cardiovascular.

(vi) Reproductive.

(vii) Neurological problems.

(b) A thorough physical examination, with particular attention to all of the following:

(i) Teeth.

(ii) Gums.

(iii) Hematological status.

(iv) Gastrointestinal status.

(v) Renal status.

(vi) Cardiovascular status.

(vii) Neurological status.

Pulmonary status shall be evaluated if respiratory protection is to be used.

(c) A blood pressure measurement.

(d) A blood sample and an analysis which determines all of the following:

(i) Blood lead level.

(ii) Hemoglobin and hematocrit determinations, red cell indices, and examination of peripheral and smear morphology.

(iii) Blood urea nitrogen.

(iv) Serum creatinine.

(v) Zinc protoporphyrin.

(e) A routine urinalysis with microscopic examination.

(f) A laboratory or other test which an examining physician deems necessary by sound medical practice.

(2) The contents of a medical examination made available pursuant to R 325.51937(c) and (d) shall be determined by an examining physician and, if requested by an employee, shall include pregnancy testing or laboratory evaluation of male fertility, as the case may be.

History: 1981 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51938a. Multiple physician review.

Rule 38a. (1) If an employer selects the initial physician to conduct a medical examination or consultation provided to an employee pursuant to R 325.51937 and R 325.51938, an employee may designate a second physician to do both of the following:

(a) Review the findings, determinations or recommendations of the initial physician.

(b) Conduct examinations, consultations, and laboratory tests as the second physician deems necessary to facilitate his or her review of the findings, determinations, or recommendations of the initial physician.

(2) An employer shall promptly notify an employee of the right to seek a second medical opinion after each occasion that a physician selected by the employer conducts a medical examination of consultation pursuant to R 325.51937 and R 325.51938.

(3) An employer may condition its participation in, and payment for, the multiple physician review mechanism upon the employee doing both of the following within 15 days after receipt of the employer's notification, as required in subrule (2) of this rule, or receipt of the initial physician's written opinion, whichever is later:

(a) The employee informs the employer that he or she intends to seek a second medical opinion.

(b) The employee initiates steps to make an appointment with a second physician.

(4) If the findings, determinations, or recommendations of a second physician differ from those of an initial physician, the employee and the employer shall assure that efforts are made for the 2 physicians to resolve the disagreement. If the

2 physicians are unable to quickly resolve the disagreement the employer and employee, through their respective physicians, shall designate a third physician to do both of the following:
(a) Review the findings, determinations, or recommendations of the prior physicians.
(b) Conduct examinations, consultations, laboratory tests, and discussions with the prior physicians as the third physician deems necessary to resolve the disagreement between the prior physicians.
(5) The employer shall act consistent with the findings, determinations, and recommendations of the third physician, unless the employer and the employee reach an agreement which is otherwise consistent with the recommendations of at least 1 of the 3 physicians.
History: 1984 AACS; 1988 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51939. Information provided to examining and consulting physicians.
Rule 39. (1) An employer shall provide a physician conducting a medical examination or consultation pursuant to R 325.51937 and R 325.51938 with all of the following information:
(a) A copy of these rules and their appendices.
(b) A description of an affected employee's duties as they relate to the employee's exposure to lead.
(c) An employee's lead exposure level or anticipated lead exposure level and an employee's actual or anticipated exposure level to any other toxic substance, if applicable.
(d) A description of personal protective equipment used or to be used.
(e) An employee's prior blood lead determination.
(f) All prior written medical opinions in the employer's possession or control concerning an employee.
(2) Upon request by the other physician or by an employee, the employer shall provide the information required by subrule (1) of this rule to another physician conducting a medical examination pursuant to these rules.
History: 1981 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51940. Written medical opinions.
Rule 40. (1) An employer shall obtain, and provide an employee with a copy of, a written medical opinion from each examining or consulting physician which shall contain all of the following information:
(a) The physician's opinion as to whether the employee has a detected medical condition which would place the employee at an increased risk of material impairment of the employee's health from exposure to lead.
(b) Any recommended special protective measures to be provided to the employee or limitations to be placed upon the employee's exposure to lead.
(c) Any recommended limitation upon the employee's use of respirators, including a determination of whether the employee can wear a powered air purifying respirator if a physician determines that the employee cannot wear a negative pressure respirator.
(d) The results of the blood lead determinations.
(2) An employer shall instruct each examining and consulting physician to do each of the following:
(a) Not reveal, in the written opinion or in other means of communication with the employer, findings, laboratory results, or diagnoses unrelated to an employee's occupational exposure to lead.
(b) Advise the employee of any occupational or non-occupational medical condition which dictates further medical examination or treatment.
History: 1981 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51941. Alternate physician determination.
Rule 41. An employer and an employee or authorized employee representative, with the written approval of the employee in question, may agree upon the use of an expeditious alternate physician determination, instead of the multiple physician review mechanism provided in R 325.51938a, if the alternate physician determination otherwise satisfies the requirements of these rules.
History: 1981 AACS; 1984 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51942
Source: 1981 AACS.

R 325.51943. Temporary medical removal due to elevated blood lead levels.
Rule 43. (1) An employer shall remove an employee from work who has an exposure to lead at or above the action level on each occasion that a periodic blood sampling test and a follow-up blood sampling test conducted under these rules indicate that the employee's blood lead level is at or above 60 micrograms per 100 grams (60 ug/l00 g) of whole blood.

(2) An employer shall remove an employee from work if the employee has an exposure to lead at or above the action level on each occasion that the average of the last 3 blood sampling tests conducted under these rules, or the average of all blood sampling tests conducted over the previous 6 months, whichever is longer, indicates that the employee‘s blood lead level is at or above 50 micrograms per 100 grams (50 ug/l00 g) of whole blood. However, an employee shall not be removed if the last blood sampling test indicates a blood lead level below 40 micrograms per 100 grams (40 ug/l00 g) of whole blood.

History: 1981 AACS; 1987 AACS; 1998-2000 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51944. Temporary medical removal due to final medical determination.

Rule 44. (1) For purposes of this rule, “final medical determination” means the outcome of a multiple physician review made pursuant to R 325.51938a.

(2) An employer shall remove from work an employee who has an exposure to lead at or above the action level on each occasion that a final medical determination results in a medical finding, determination or opinion that the employee has a detected medical condition which places the employee at an increased risk of material impairment to health from exposure to lead.

(3) If a final medical determination results in any recommended special protective measures for an employee or limitation on an employee’s exposure to lead, an employer shall implement and act consistently with the recommended protective measures.

History: 1981 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51945. Return of an employee to former job status.

Rule 45. (1) An employer shall return an employee to his or her former job status under any of the following circumstances:

(a) For an employee removed due to a blood lead level at or above 60 micrograms per 100 grams (60 ug/ 100 g) of whole blood or due to an average blood lead level at or above 50 micrograms per 100 grams (50 ug/100 g) of blood, when 2 consecutive blood sampling tests indicate that the employee’s blood lead level is below 40 micrograms per 100 grams (40 ug/100 g) of whole blood.

(b) For an employee removed due to a final medical determination, when a subsequent final medical determination results in a medical finding, determination or opinion that the employee no longer has a detected medical condition which places the employee at an increased risk of material impairment to health from exposure to lead.

(2) For purposes of this rule, the requirement that an employer return an employee to his or her former job status is not intended to expand upon or restrict any rights an employee has or would have had, absent temporary medical removal, to a specific job classification or position under the terms of a collective bargaining agreement.

History: 1981 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51946. Removal of other employee protective measures or limitations.

Rule 46. An employer shall remove any limitations placed on an employee or shall terminate any special protective measures provided to an employee pursuant to a determination when a subsequent final medical determination indicates that the limitations or special protective measures are no longer necessary.

History: 1981 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51947. Employer options pending final medical determinations.

Rule 47. If a multiple physician review used pursuant to R 325.51938a has not resulted in a final medical determination with respect to an employee, an employer may do either of the following:

(a) Remove the employee from exposure to lead, provide special protective measures to the employee or place limitations upon the employee consistent with the medical findings, determinations, or recommendations of any of the physicians who have reviewed the employee’s health status.

(b) Return the employee to his or her former job status, end any special protective measures provided to the employee and remove any limitations placed upon the employee consistent with the medical findings, determinations, or recommendations of any of the physicians who have reviewed the employee’s health status, except as follows:

(i) If the initial removal, special protection or limitation of the employee resulted from a medical determination which differed from the findings, determinations, or recommendations of the initial physician, the employer shall await a final medical determination.

(ii) If the employee has been on removal status for the preceding 18 months due to an elevated blood lead level, the employer shall await a final medical determination.

History: 1981 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51948. Benefits.
Rule 48. (1) For purposes of these rules, the requirement that an employer provide medical removal protection benefits means that the employer shall maintain the earnings, seniority, and other employment rights and benefits of an employee as though the employee had not been removed from normal exposure to lead or had not been otherwise limited. Medical removal benefits shall not replace employee earnings and shall not be related to the cost of medical treatment for which the employee remains responsible, that is not lead related.
(2) An employer shall provide to an employee up to 18 months of medical removal protection benefits on each occasion that an employee is removed from exposure to lead or is otherwise limited pursuant to this rule.
(3) During the time that an employee is removed from normal exposure to lead or is otherwise limited an employer may condition the provision of medical removal protection benefits upon the employee's participation in follow-up medical surveillance made available pursuant to this rule.
(4) If a removed employee files a claim for workers' compensation payments for a lead-related disability, the employer shall continue to provide medical removal protection benefits pending disposition of the claim. To the extent that an award is made to the employee for earnings lost during the period of removal, the employer's medical removal protection obligation shall be reduced by that amount. The employer shall not receive credit for workers' compensation payments received by the employee for treatment-related expenses.
(5) An employer's obligation to provide medical removal protection benefits to a removed employee shall be reduced to the extent that an employee receives compensation for earnings lost during the period of removal from either a publicly or employer-funded compensation program or from employment with another employer made possible by virtue of the employee's removal.
(6) An employer shall take both of the following measures with respect to an employee removed from exposure to lead due to an elevated blood lead level has not declined within the past 18 months of removal so that the employee has been returned to his or her former job status:
(a) Make available to the employee a medical examination pursuant to these rules to obtain a final medical determination with respect to the employee.
(b) Assure that the final medical determination has not yet been obtained or, if obtained, indicates the employee may be returned to his or her former job status and, if not, the steps which are to be taken to protect the employee's health.
(7) If a final medical determination has not yet been obtained or, if obtained, indicates that the employee may not yet be returned to his or her former job status, the employer shall continue to provide medical removal protection benefits to the employee until either the employee is returned to his or her former job status or until a final medical determination is made that the employee is incapable of ever safely returning to his or her former job status.
(8) If an employer acts pursuant to a final medical determination which permits the return of an employee to his or her former job status despite what would otherwise be an unacceptable blood lead level, later determinations concerning removal of the employee shall be decided by a final medical determination. An employer shall not be required to automatically remove that employee pursuant to the blood lead level removal criteria provided by these rules until a final medical determination is made.
(9) If an employer, whether or not required by this rule, removes an employee from exposure to lead or otherwise places limitations on an employee due to the effects of lead exposure on the employees' medical condition, the employer shall provide medical removal protection benefits to the employee equal to that required by subrule (2) of this rule.
History: 1981 AACS; 2015 MR 4, Eff. March 3, 2015.

EMPLOYEE INFORMATION AND TRAINING

R 325.51949. Training program.
Rule 49. (1) An employer who has a workplace in which there is a potential exposure to airborne lead at any level shall inform employees of the contents of Appendices A and B to 29 C.F.R. §1910.1025 'Lead.'
(2) The employer shall train each employee who is subject to exposure to lead at or above the action level, or for whom the possibility of skin or eye irritation exists, in accordance with the requirements of these rules. The employer shall institute a training program and ensure employee participation in the program.
(3) An employer shall provide initial training in accordance with both of the following provisions:
(a) Within 180 days from the effective date of these rules for employees subject to subrule (2) of this rule.
(b) For new employees who subsequently become subject to subrule (2) of this rule, before the time of initial job assignment.
(4) The training program shall be repeated at least annually for each employee.
(5) An employer shall assure that each employee is informed of all of the following information:

(a) The contents of these rules and appendices.
(b) The specific nature of the operations that could result in exposure to lead above the action level.
(c) The purpose, proper selection, fitting, use, and limitations of respirators.
(d) The purpose and a description of the medical surveillance program and the medical removal protection program, including information regarding adverse health effects associated with excessive exposures to lead, with particular attention to the adverse reproductive effects on both males and females.
(e) The engineering controls and work practices associated with the employee‘s job assignment.
(f) The contents of any compliance plan in effect.
(g) Instructions to employees that chelating agents shall not routinely be used to remove lead from their bodies and shall not be used at all except under the direction of a licensed physician.

History: 1981 AACS; 1987 AACS; 1998-2000 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51950. Access to information and training materials.
Rule 50. (1) An employer shall make a copy of these rules and their appendices readily available to all affected employees.
(2) Upon request, an employer shall provide to the director all materials relating to the employee information and training program.
(3) In addition to the information required by R 325.51949(5), an employer shall include as part of the training program, and shall distribute to employees, all materials pertaining to the act and the rules promulgated thereunder which are provided to the employer by the department.

History: 1981 AACS; 2015 MR 4, Eff. March 3, 2015.

HAZARD COMMUNICATION

R 325.51950a. Communication of hazards.
Rule 50a. (1) Chemical manufacturers, importers, distributors, and employers shall comply with all requirements of the Occupational Health Standard Part 430 “Hazard Communication,” as referenced in in R 325.51902a, for lead.
(2) In classifying the hazards of lead, at least all of the following hazards are to be addressed:
(a) Reproductive and developmental toxicity.
(b) Central nervous system effects.
(c) Kidney effects.
(d) Blood effects.
(e) Acute toxicity effects.
(3) Employers shall include lead in the hazard communication program established to comply with the Occupational Health Standard Part 430 “Hazard Communication.” Employers shall ensure that each employee has access to labels on containers of lead and to safety data sheets, and is trained in accordance with R 325.51949 and Occupational Health Standard Part 430 “Hazard Communication,” as referenced in in R 325.51902a.

History: 1981 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51950b. Signs.
Rule 50b. (1) An employer shall post the following warning signs in each work area where the permissible employee exposure limit is exceeded:

DANGER
LEAD
MAY DAMAGE FERTILITY OR THE UNBORN CHILD
CAUSES DAMAGE TO THE CENTRAL NERVOUS SYSTEM
DO NOT EAT, DRINK, OR SMOKE IN THIS AREA

(2) An employer shall assure that no statement appears on or near any sign required these rules which contradicts or detracts from the meaning of the required sign.

(3) An employer may use signs required by other statutes, rules, regulations or ordinances in addition to, or in combination with, signs required by these rules.
(4) Prior to June 1, 2016, employers may use the following legend in lieu of that specified in subrule (1) of this rule:

WARNING LEAD WORK AREA POISON NO SMOKING OR EATING

(5) An employer shall assure that signs required by these rules are illuminated and cleaned as necessary so that the legend is readily visible.
History: 1984 AACS; 2015 MR 4, Eff. March 3, 2015.

RECORDKEEPING

R 325.51951. Exposure monitoring.
Rule 51. (1) An employer shall establish and maintain an accurate record of all monitoring required pursuant to R 325.51905 to R 325.51913.
(2) The monitoring records shall include all of the following:
(a) The date or dates, number, duration, locations and results in each of the samples taken, including a description of the sampling procedure used to determine representative employee exposure, where applicable.
(b) A description of the sampling and analytical methods used and evidence of their accuracy.
(c) The type of respiratory protective devices worn, if any.
(d) The name, social security number, and job classification of the employee monitored and of all other employees whose exposure the measurement is intended to represent.
(e) The environmental variables that could affect the measurement of employee exposure.
(3) An employer shall maintain monitoring records for not less than 40 years or for the duration of employment plus 20 years, whichever is longer.
History: 1981 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51952. Medical surveillance.
Rule 52. (1) An employer shall establish and maintain an accurate record for each employee subject to medical surveillance as required by R 325.51932 to R 325.51942.
(2) The medical surveillance record shall include all of the following:
(a) The name, social security number, and description of the duties of the employee.
(b) A copy of the physicians' written opinions.
(c) Results of any airborne exposure monitoring carried out for that employee and the representative exposure levels supplied to the employee's physician or physicians.
(d) Employee medical complaints related to exposure to lead.
(3) An employer shall maintain, or assure that the examining physician maintains, all of the following medical records:
(a) A copy of the medical examination results including medical and work history required pursuant to R 325.51932 to R 325.51942.
(b) A description of the laboratory procedures and a copy of standards or guidelines used to interpret test results or references to that information.
(c) A copy of the results of biological monitoring.
(4) An employer shall maintain, or assure that the physician maintains, medical records for not less than 40 years or for the duration of employment plus 20 years, whichever is longer
History: 1981 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51953. Medical removals.
Rule 53. (1) An employer shall establish and maintain an accurate record for each employee removed from exposure to lead pursuant to R 325.51943 to R 325.51948.
(2) Each medical removal record shall include all of the following:

(a) The name and social security number of the employee.
(b) The date on each occasion that the employee was removed from current exposure to lead and the corresponding date on which the employee was returned to his or her former job status.
(c) A brief explanation of how each removal was or is being accomplished.
(d) With respect to each removal, a statement indicating whether the reason for the removal was an elevated blood lead level.
(3) The employer shall maintain a medical removal record for at least the duration of an employee's employment
History: 1981 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51954
Source: 1981 AACS.

R 325.51955. Transfer of records.
Rule 55. (1) If an employer ceases to do business and there is a successor employer, the successor employer shall receive and retain all records required to be maintained pursuant to R 325.51951 to R 325.51953.
(2) The employer shall comply with any additional requirements involving transfer of records set forth in Occupational Health Standard Part 470 "Employee Medical Records and Trade Secrets," as reference in R 325.51902a.
History: 1981 AACS; 2015 MR 4, Eff. March 3, 2015.

OBSERVATION OF MONITORING

R 325.51956. Employee observation.
Rule 56. An employer shall provide affected employees or their designated representatives an opportunity to observe monitoring of employee exposure to lead conducted pursuant to R 325.51905 to R 325.51913.
History: 1981 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51957. Procedures.
Rule 57. (1) If observation of the monitoring of employee exposure to lead requires entry into an area where the use of respirators, protective clothing, or equipment is required an employer shall provide the observer with, and assure the use of, respirators, protective clothing, and equipment and shall require the observer to comply with all other applicable safety and health procedures.
(2) Without interfering with the monitoring, an observer shall be entitled to all of the following:
(a) Receipt of an explanation of the measurement procedures.
(b) Observation of all steps related to the monitoring of lead performed at the place of exposure.
(c) To record the results obtained or to receive copies of the results when returned by the laboratory.
History: 1981 AACS; 2015 MR 4, Eff. March 3, 2015.

R 325.51958 Rescinded.
History: 1981 AACS; 1998-2000 AACS; 2015 MR 4, Eff. March 3, 2015.

LEAD EXPOSURE IN CONSTRUCTION

R 325.51991
Source: 2014 AACS.

R 325.51992
Source: 2014 AACS.

R 325.51993
Source: 2014 AACS.

PART 604. CHROMIUM (VI) IN CONSTRUCTION

R 325.51995
Source: 2006 AACS.

R 325.51996
Source: 2010 AACS.

R 325.51997
Source: 2010 AACS.

PART 520. VENTILATION CONTROL

R 325.52001
Source: 2005 AACS.

R 325.52002
Source: 2005 AACS.

R 325.52003
Source: 2005 AACS.

R 325.52004
Source: 2005 AACS.

R 325.52005
Source: 2005 AACS.

R 325.52006
Source: 2005 AACS.

R 325.52007
Source: 2005 AACS.

R 325.52008
Source: 2005 AACS.

R 325.52009
Source: 2005 AACS.

R 325.52010
Source: 2005 AACS.

R 325.52011
Source: 2005 AACS.

R 325.52012
Source: 2005 AACS.

HAZARDOUS WASTE OPERATIONS AND EMERGENCY RESPONSE

R 325.52101
Source: 1991 AACS.

R 325.52102
Source: 2014 AACS.

R 325.52102a
Source: 2014 AACS.

R 325.52103
Source: 2014 AACS.

R 325.52104
Source: 2014 AACS.

R 325.52105
Source: 1991 AACS.

R 325.52106
Source: 1991 AACS.

R 325.52107
Source: 1991 AACS.

R 325.52108
Source: 1991 AACS.

R 325.52109
Source: 2014 AACS.

R 325.52110
Source: 1991 AACS.

R 325.52111
Source: 1991 AACS.

R 325.52112
Source: 1991 AACS.

R 325.52113
Source: 2014 AACS.

R 325.52114
Source: 2014 AACS.

R 325.52115
Source: 1991 AACS.

R 325.52116
Source: 2014 AACS.

R 325.52117
Source: 2014 AACS.

R 325.52118
Source: 2014 AACS.

R 325.52119
Source: 1991 AACS.

R 325.52120
Source: 1991 AACS.

R 325.52121
Source: 1991 AACS.

R 325.52122

Source: 1991 AACS.

R 325.52123
Source: 2014 AACS.

R 325.52124
Source: 2014 AACS.

R 325.52125
Source: 2014 AACS.

R 325.52126
Source: 1991 AACS.

R 325.52127
Source: 2014 AACS.

R 325.52128
Source: 1991 AACS.

R 325.52129
Source: 2014 AACS.

R 325.52130
Source: 2014 AACS.

R 325.52131
Source: 2014 AACS.

R 325.52132
Source: 1991 AACS.

R 325.52133
Source: 1991 AACS.

R 325.52134
Source: 1991 AACS.

R 325.52135
Source: 2014 AACS.

R 325.52136
Source: 2014 AACS.

R 325.52137
Source: 2014 AACS.

OCCUPATIONAL HEALTH STANDARDS

R 325.52201
Source: 2001 AACS.

R 325.52401
Source: 2001 AACS.

PART 525. GRINDING, POLISHING, AND BUFFING OPERATIONS

R 325.52501
Source: 2003 AACS.

R 325.52502
Source: 2003 AACS.

R 325.52503
Source: 2003 AACS.

R 325.52504
Source: 2003 AACS.

R 325.52505
Source: 2003 AACS.

R 325.52506
Source: 2003 AACS.

PART 526 DIPPING AND COATING OPERATIONS

R 325.52601
Source: 2007 AACS.

R 325.52602
Source: 2007 AACS.

PART 527 SANDING MACHINES

R 325.52701
Source: 2001 AACS.

PART 528. SPRAY-FINISHING OPERATIONS

R 325.52801
Source: 2007 AACS.

PART 529. WELDING, CUTTING, AND BRAZING

R 325.52901
Source: 2012 AACS.

R 325.52902 Adopted and referenced standards.
Rule 2. (1) The American welding society standard/ANSI standard Z49.1 "Safety In Welding and Cutting and Allied Processes," 1967 edition, is adopted by reference in these rules. This standard is available from Global Engineering Documents, 15 Inverness Way East, Englewood, Colorado, 80112, USA, telephone number: 1-800-854-7179 or via the internet at website: http://global.ihs.com; at a cost of $96.00 as of the time of adoption of these rules.
(2) The United States department of health and human services, C.F.R. Title 42, chapter I—Public Health Service, Part 84—"Approval of Respiratory Protective Devices," 42 C.F.R. §§ 84.1 to 84.1158 (2012), is adopted by reference in these rules and is available for no cost at: www.ecfr.gov. It is also available at the National Institute for Occupational Safety and Health (NIOSH) at www.cdc.gov/niosh/regulations.html.
(3) The standards adopted by reference in these rules are available for inspection at the Department of Licensing and Regulatory Affairs, MIOSHA Regulatory Services Section, 7150 Harris Drive, Lansing, Michigan, 48909-8143.
(4) The standards adopted by reference in these rules may be obtained from the publisher or may be obtained from the Department of Licensing and Regulatory Affairs, MIOSHA Regulatory Services Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143, at the cost charged in this rule, plus $20.00 for shipping and handling.
(5) The following Michigan occupational safety and health standards are referenced in these rules. Up to 5 copies of these standards may be obtained at no charge from the Michigan Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143 or via the internet at website: www.michigan.gov/mioshastandards. For quantities greater than 5, the cost, as of the time of adoption of these rules, is 4 cents per page.

(a) General Industry Safety Standard Part 12 "Welding and Cutting," R 408.11201 to R 408.11299.
(b) Occupational Health Standard Part 301 "Air Contaminants for General Industry," R 325.51101 to R 325.51108.
(c) Occupational Health Standard Part 381 "Ionizing Radiation," R 325.60601a to R 325.60618.
(d) Occupational Health Standard Part 430 "Hazard Communication," R 325.77001 to R 325.77003.
History: 2012 AACS; 2015 MR 23, Eff. Dec. 22, 2015.

R 325.52904 Operation and maintenance.
Rule 4. Workers assigned to operate or maintain arc welding equipment shall be familiar with the requirements of General Industry Safety Standard Part 12 "Welding and Cutting," as referenced in R 325.52902.
History: 2012 AACS; 2015 MR 23, Eff. Dec. 22, 2015.

R 325.52905 Flash welding equipment.
Rule 5. (1) Flash welding machines shall be equipped with a hood to control flying flash. In cases of high production, where materials may contain a film of oil and where toxic elements and metal fumes are given off, ventilation shall be in accordance with R 325.52907 to R 325.52927 of this standard.
(2) Additional safety requirements for flash welding machines are contained in General Industry Safety Standard Part 12 "Welding and Cutting,"as referenced in R 325.52902.
History: 2012 AACS; 2015 MR 23, Eff. Dec. 22, 2015.

R 325.52906 Protection of personnel in confined spaces.
Rule 6. Work in confined spaces shall comply with all of the following:
(a) As used in this standard, confined space is intended to mean a relatively small or restricted space such as a tank, boiler, pressure vessel, or small compartment of a ship.
(b) Ventilation is a prerequisite to work in confined spaces. For ventilation requirements see R 325.52907 to R 325.52927 of this standard.
(c) Additional safety requirements for working in confined spaces are contained in General Industry Safety Standard Part 12 "Welding and Cutting," as referenced in R 325.52902.
History: 2012 AACS; 2015 MR 23, Eff. Dec. 22, 2015.

325.52907 Health protection and ventilation.
Rule 7. (1) Contamination. The requirements in this rule are based on the following factors in arc and gas welding which govern the amount of contamination to which welders may be exposed:
(a) Dimensions of space in which welding is to be done, with special regard to height of ceiling.
(b) Number of welders.
(c) Possible evolution of hazardous fumes, gases, or dust according to the metals involved.
(2) Screens. When welding must be performed in a space entirely screened on all sides, the screens shall be arranged so that no serious restriction of ventilation exists. It is desirable to have the screens mounted so that they are about 2 feet (0.61 m) above the floor unless the work is performed at so low a level that the screen must be extended nearer to the floor to protect nearby workers from the glare of welding.
(3) Maximum allowable concentration. Local exhaust or general ventilating systems shall be provided and arranged to keep the amount of toxic fumes, gases, or dusts below the maximum allowable concentration as specified in Occupational Health Standard Part 301 "Air Contaminants for General Industry," as referenced in R 325.52902.
History: 2012 AACS; 2015 MR 23, Eff. Dec. 22, 2015.

R 325.52908 Rescinded.
History: 2012 AACS; 2015 MR 23, Eff. Dec. 22, 2015.

R 325.52909 Hazard communication.
Rule 9. (1) An employer shall include the potentially hazardous materials employed in fluxes, coatings, coverings, and filler metals, all of which are potentially used in welding and cutting, or are released to the atmosphere during welding and cutting, in the program established to comply with Occupational Health Standard Part 430 "Hazard Communication," as referenced in R 325.52902.
(2) An employer shall ensure that each employee has access to labels on containers of these materials and safety data sheets, and is trained pursuant to Occupational Health Standard Part 430 "Hazard Communication," as referenced in R 325.52902. Potentially hazardous materials shall include, but not be limited to, the materials itemized in R 325.52913 to R 325.52926.

(3) Additional considerations for hazard communication in welding, cutting, and brazing are as follows:
(a) Suppliers shall determine and shall label any hazards associated with the use of their materials in welding, cutting, and brazing pursuant to the Occupational Health Standard Part 430 "Hazard Communication," as referenced in R 325.52902.
(b) In addition to any requirements imposed by Occupational Health Standard Part 430 "Hazard Communication," as referenced in R 325.52902, all filler metals and fusible granular materials shall carry the following notice, as a minimum, on tags, boxes, or other containers:

> Do not use in areas without adequate ventilation.
> See ANSI Z49.1- 1967 Safety in Welding, Cutting, and Allied Processes
> published by the American Welding Society.

(c) Where brazing or welding filler metals contain cadmium in significant amounts, the labels shall indicate the hazards associated with cadmium including cancer, lung and kidney effects, and acute toxicity effects.
(d) Where brazing and gas welding fluxes contain fluorine compounds, the labels shall indicate the hazards associated with fluorine compounds including eye and respiratory tract effects.
(4) Prior to June 1, 2015, employers may include the following information on labels in lieu of the labeling requirements in subrule (3) of this rule:
(a) All filler metals and fusible granular materials shall carry the following notice, as a minimum, on tags, boxes, or other containers:

> CAUTION
> Welding may produce fumes and gases hazardous to health.
> Avoid breathing these fumes and gases. Use adequate ventilation.
> See ANSI Z49.1-1967 Safety in Welding and Cutting
> published by the American Welding Society.

(b) Brazing (welding) filler metals containing cadmium in significant amounts shall carry the following notice on tags, boxes, or other containers:

> WARNING
> CONTAINS CADMIUM--POISONOUS FUMES MAY BE FORMED ON HEATING
> Do not breathe fumes.
> Use only with adequate ventilation such as fume collectors, exhaust ventilators,
> or air-supplied respirators.
> See ANSI Z49.1-1967.
> If chest pain, cough, or fever develops after use call physician immediately.

(c) Brazing and gas welding fluxes containing fluorine compounds shall have a cautionary wording to indicate that they contain fluorine compounds. Cautionary wording recommended by the American Welding Society for brazing and gas welding fluxes reads as follows:

CAUTION
CONTAINS FLUORIDES
This flux when heated gives off fumes that may irritate eyes, nose, and throat.
1. Avoid fumes--use only in well-ventilated spaces.
2. Avoid contact of flux with eyes or skin.
3. Do not take internally.

History: 2015 MR 23, Eff. Dec. 22, 2015.

R 325.52910 Ventilation for general welding and cutting.
Rule 10. (1) An employer shall ensure that mechanical ventilation is provided when welding or cutting is done on metals, not covered in R 325.52913 to R 325.52926, at any of the following:
(a) In a space of less than 10,000 cubic feet (284 $m^{(3)}$) per welder.
(b) In a room having a ceiling height of less than 16 feet (5 m).
(c) In confined spaces or where the welding space contains partitions, balconies, or other structural barriers to the extent that they significantly obstruct cross ventilation.
(2) For specific materials, see the ventilation requirements of R 325.52913 to R 325.52926.
(3) Minimum rate. The ventilation shall be at the minimum rate of 2,000 cubic feet (57 m(3)) per minute per welder, except where local exhaust hoods and booths under R 325.52911 or airline respirators approved by the national institute for occupational safety and health (NIOSH) under C.F.R. Title 42, Part 84, as adopted by reference in R 325.52902, for such purposes are provided. Natural ventilation is considered sufficient for welding or cutting operations where the restrictions in subrule (1) of this rule are not present.
History: 2015 MR 23, Eff. Dec. 22, 2015.

R 325.52911 Local exhaust hoods and booths.
Rule 11. Mechanical local exhaust ventilation may occur by means of either of the following:
(a) Hoods. Freely movable hoods intended to be placed by the welder as near as practicable to the work being welded and provided with a rate of airflow sufficient to maintain a velocity in the direction of the hood of 100 linear feet (30 m) per minute in the zone of welding when the hood is at its most remote distance from the point of welding. The rates of ventilation required to accomplish this control velocity using a 3-inch (7.6 cm) wide flanged suction opening are shown in Table 1.
(b) Fixed enclosure. A fixed enclosure with a top and not less than 2 sides which surround the welding or cutting operations and with a rate of airflow sufficient to maintain a velocity away from the welder of not less than 100 linear feet (30 m) per minute.

TABLE 1		
Welding zone (inches from arc or torch)	Minimum airflow [1] (cubic feet/minute)	Duct diameter (inches [2])
4 to 6	150	3
6 to 8	275	3 1/2
8 to 10	425	4 1/2
10 to 12	600	5 1/2
[1] When brazing with cadmium-bearing materials or when cutting on such materials, increased rates of ventilation may be required.		
[2] Nearest half-inch duct diameter based on 4,000 feet per minute velocity in pipe.		

History: 2015 MR 23, Eff. Dec. 22, 2015.

R 325.52912 Ventilation in confined spaces.
Rule 12. (1) Air replacement. All welding and cutting operations carried on in confined spaces shall be adequately ventilated to prevent the accumulation of toxic materials or possible oxygen deficiency. This subrule applies not only to the welder but also to helpers and other personnel in the immediate vicinity. All air replacing the ventilated air withdrawn shall be clean and respirable.
(2) Airline respirators. In circumstances for which it is impossible to provide such ventilation, airline respirators or hose masks approved for this purpose by NIOSH under C.F.R. Title 42, Part 84, as adopted by reference in R 325.52902, shall be used.
(3) Self-contained units. In areas immediately hazardous to life, a full-facepiece, pressure-demand, self-contained breathing apparatus or a combination full-facepiece, pressure-demand supplied-air respirator with an auxiliary, self-contained air supply approved by NIOSH under C.F.R. Title 42, Part 84, as adopted by reference in R 325.52902, shall be used.
(4) Outside helper. Where welding operations are carried on in confined spaces and where welders and helpers are provided with hose masks, hose masks with blowers or self-contained breathing equipment approved by the mine safety and health administration and NIOSH, a worker shall be stationed on the outside of such confined spaces to ensure the safety of those working within.
(5) Oxygen for ventilation. Oxygen shall not be used for ventilation.
History: 2015 MR 23, Eff. Dec. 22, 2015.

R 325.52913 Fluorine compounds.
Rule 13. (1) In confined spaces, welding or cutting involving fluxes, coverings, or other materials which contain fluorine compounds shall be done in accordance with R 325.52912. A fluorine compound is a compound that contains fluorine as an element in chemical combination, not as a free gas.
(2) Maximum allowable concentration. The need for local exhaust ventilation or airline respirators for welding or cutting in other than confined spaces will depend upon the individual circumstances. However, protection is desirable for fixed-location production welding and for all production welding on stainless steels. Where air samples taken at the welding location indicate that fluorides liberated are below the maximum allowable concentration, such protection is not necessary.
History: 2015 MR 23, Eff. Dec. 22, 2015.

R 325.52920 Zinc.
Rule 20. (1) In confined spaces, welding or cutting involving zinc-bearing base or filler metals or metals coated with zinc-bearing materials shall be done in accordance with R 325.52912.

(2) Indoors. Indoors, welding or cutting involving zinc-bearing base or filler metals coated with zinc-bearing materials shall be done in accordance with R 325.52911.
History: 2015 MR 23, Eff. Dec. 22, 2015.

R 325.52921 Lead.
Rule 21. (1) In confined spaces, welding involving lead-base metals, erroneously called lead-burning, shall be done in accordance with R 325.52912.
(2) Indoors. Indoors, welding involving lead-base metals shall be done in accordance with R 325.52911.
(3) Local ventilation. In confined spaces or indoors, welding or cutting operations involving metals containing lead, other than as an impurity, or metals coated with lead-bearing materials, including paint, shall be done using local exhaust ventilation or airline respirators. Such operations, when done outdoors, shall be done using respirators approved for this purpose by NIOSH under C.F.R. Title 42, Part 84, as adopted by reference in R 325.52902. In all cases, workers in the immediate vicinity of the cutting operation shall be protected by local exhaust ventilation or airline respirators.
History: 2015 MR 23, Eff. Dec. 22, 2015.

R 325.52922 Beryllium.
Rule 22. Welding or cutting indoors, outdoors, or in confined spaces involving beryllium-containing base or filler metals shall be done using local exhaust ventilation and airline respirators unless atmospheric tests under the most adverse conditions have established that the workers' exposure is within the acceptable concentrations defined by Occupational Health Standard Part 301 “Air Contaminants for General Industry,” as referenced in R 325.52902. In all cases, workers in the immediate vicinity of the welding or cutting operations shall be protected as necessary by local exhaust ventilation or airline respirators.
History: 2015 MR 23, Eff. Dec. 22, 2015.

R 325.52923 Cadmium.
Rule 23. (1) In confined spaces or indoors, welding or cutting operations involving cadmium-bearing or cadmium-coated base metals shall be done using local exhaust ventilation or airline respirators unless atmospheric tests under the most adverse conditions show that employee exposure is within the acceptable concentrations specified by Occupational Health Standard Part 301 “Air Contaminants for General Industry,” as referenced in R 325.52902. Such operations, when done outdoors, shall be done using respirators, such as fume respirators, approved for this purpose by NIOSH under C.F.R. Title 42, Part 84, as adopted by reference in R 325.52902.
(2) Confined space. Welding, also known as brazing, involving cadmium-bearing filler metals shall be done using ventilation as prescribed in R 325.52911 or R 325.52912, if the work is to be done in a confined space.
History: 2015 MR 23, Eff. Dec. 22, 2015.

R 325.52924 Mercury.
Rule 24. In confined spaces or indoors, welding or cutting operations involving metals coated with mercury-bearing materials including paint, shall be done using local exhaust ventilation or airline respirators unless atmospheric tests under the most adverse conditions show that employee exposure is within the acceptable concentrations specified by Occupational Health Standard Part 301 “Air Contaminants for General Industry,” as referenced in R 325.52902. Such operations, when done outdoors, shall be done using respirators approved for this purpose by NIOSH under C.F.R. Title 42, Part 84, as adopted by reference in R 325.52902.
History: 2015 MR 23, Eff. Dec. 22, 2015.

R 325.52925 Cleaning compounds.
Rule 25. (1) Manufacturer's instructions. In the use of cleaning materials, because of their possible toxicity or flammability, appropriate precautions such as manufacturers’ instructions shall be followed.
(2) Degreasing or other cleaning operations involving chlorinated hydrocarbons shall be located so that no vapors from these operations will reach or be drawn into the atmosphere surrounding any welding operation. In addition, trichloroethylene and perchloroethylene should be kept out of atmospheres penetrated by the ultraviolet radiation of gas-shielded welding operations.
History: 2015 MR 23, Eff. Dec. 22, 2015.

R 325.52926 Cutting of stainless steels.
Rule 26. Oxygen cutting, using either a chemical flux or iron powder or gas-shielded arc cutting of stainless steel, shall be done using mechanical ventilation adequate to remove the fumes generated.

History: 2015 MR 23, Eff. Dec. 22, 2015.

R 325.52927 First-aid equipment.
Rule 27. First-aid equipment shall be available at all times. All injuries shall be reported as soon as possible for medical attention. First aid shall be rendered until medical attention is provided.
History: 2015 MR 23, Eff. Dec. 22, 2015.

INDUSTRIAL APPLICATIONS

R 325.52930 Transmission pipeline.
Rule 30. (1). When transmission pipelines are involved, the requirements of R 325.52906 to R 325.52927 of this standard and General Industry Safety Standard Part 12 "Welding and Cutting," as referenced in R 325.52902, shall be observed
(2) Where field shop operations are involved for fabrication of fittings, river crossing, road crossings, and pumping and compressor stations, the requirements of R 325.52906 to R 325.52927 of this standard and General Industry Safety Standard Part 12 "Welding and Cutting," as referenced in R 325.52902, shall be observed.
(3) Requirements for X-ray inspections are contained in Occupational Health Standard Part 381 "Ionizing Radiation," as referenced in R 325.52902.
History: 2015 MR 23, Eff. Dec. 22, 2015.

R 325.52931 Mechanical piping systems.
Rule 31. (1) When mechanical piping systems are involved, the requirements of R 325.52906 to R 325.52927 of this standard and General Industry Safety Standard Part 12 "Welding and Cutting," as referenced in R 325.52902, shall be observed.
(2) Requirements for X-ray inspections are contained in Occupational Health Standard Part 381 "Ionizing Radiation," as referenced in R 325.52902.
History: 2015 MR 23, Eff. Dec. 22, 2015.

Rule 3240
Source: 2012 AACS.

PERSONAL PROTECTIVE EQUIPMENT

R 325.60001
Source: 2014 AACS.

R 325.60002
Source: 2014 AACS.

R 325.60002a
Source: 2014 AACS.

R 325.60002b
Source: 2014 AACS.

R 325.60003
Source: 2014 AACS.

PAYMENT FOR PERSONAL PROTECTIVE EQUIPMENT

R 325.60003a
Source: 2014 AACS.

HAZARD ASSESSMENT

R 325.60005
Source: 2014 AACS.

TRAINING

R 325.60006
Source: 2014 AACS.

R 325.60007
Source: 2014 AACS.

EYE AND FACE PROTECTION

R 325.60008
Source: 2014 AACS.

R 325.60008
Source: 2014 AACS.

R 325.60009
Source: 2014 AACS.

HAND PROTECTION

R 325.60010
Source: 2014 AACS.

R 325.60011
Source: 2014 AACS.

R 325.60012
Source: 2014 AACS.

R 325.60013
Source: 2014 AACS.

USE OF RESPIRATORS IN DANGEROUS ATMOSPHERES

R 325.60022
Source: 1998-2000 AACS.

RESPIRATORY PROTECTION

R 325.60051
Source: 2014 AACS.

R 325.60052
Source: 2014 AACS.

OCCUPATIONAL NOISE EXPOSURE

R 325.60101
Source: 1986 AACS.

R 325.60102
Source: 1986 AACS.

R 325.60103
Source: 1986 AACS.

R 325.60104
Source: 1986 AACS.

R 325.60105
Source: 1986 AACS.

R 325.60106
Source: 1986 AACS.

R 325.60107
Source: 1986 AACS.

R 325.60108
Source: 1986 AACS.

R 325.60109
Source: 1986 AACS.

R 325.60110
Source: 1986 AACS.

R 325.60111
Source: 1986 AACS.

R 325.60112
Source: 1986 AACS.

R 325.60113
Source: 1986 AACS.

R 325.60114
Source: 1986 AACS.

R 325.60115
Source: 1993 AACS.

R 325.60116
Source: 1986 AACS.

R 325.60117
Source: 1986 AACS.

R 325.60118
Source: 1986 AACS.

R 325.60119
Source: 1993 AACS.

R 325.60120
Source: 1993 AACS.

R 325.60121
Source: 1993 AACS.

R 325.60122
Source: 1993 AACS.

R 325.60123
Source: 1986 AACS.

R 325.60124
Source: 1986 AACS.

R 325.60125
Source: 1993 AACS.

R 325.60126
Source: 1986 AACS.

R 325.60127
Source: 1993 AACS.

R 325.60128
Source: 1993 AACS.

DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

DIRECTOR'S OFFICE

OCCUPATIONAL HEALTH STANDARDS--NOISE EXPOSURE FOR CONSTRUCTION

R 325.60131
Source: 1998-2000 AACS.

AIR CONTAMINANTS FOR CONSTRUCTION

R 325.60151
Source: 2013 AACS.

R 325.60151a
Source: 2013 AACS.

R 325.60152
Source: 2002 AACS.

R 325.60153
Source: 2002 AACS.

R 325.60154
Source: 2013 AACS.

R 325.60155
Source: 2013 AACS.

R 325.60156
Source: 2013 AACS.

R 325.60157
Source: 2013 AACS.

R 325.60158
Source: 2013 AACS.

R 325.60159
Source: 2013 AACS.

R 325.60160
Source: 2013 AACS.

R 325.60161
Source: 2013 AACS.

OCCUPATIONAL HEALTH STANDARDS COMMISSION

PART 381. IONIZING RADIATION

R 325.60601a
Source: 2009 AACS.

R 325.60601b
Source: 2009 AACS.

R 325.60602
Source: 2009 AACS.

R 325.60603
Source: 2009 AACS.

R 325.60604
Source: 2009 AACS.

R 325.60605
Source: 2009 AACS.

R 325.60606
Source: 2009 AACS.

R 325.60607
Source: 2009 AACS.

R 325.60608
Source: 2009 AACS.

R 325.60609
Source: 2009 AACS.

R 325.60610
Source: 2009 AACS.

R 325.60611
Source: 2009 AACS.

R 325.60612
Source: 2009 AACS.

R 325.60613
Source: 2009 AACS.

R 325.60614
Source: 2009 AACS.

R 325.60615
Source: 2009 AACS.

R 325.60616
Source: 2009 AACS.

R 325.60617
Source: 2009 AACS.

R 325.60618
Source: 2009 AACS.

Rule 2410
Source: 2009 AACS.

OCCUPATIONAL HEALTH STANDARDS COMMISSION

PART 382. NONIONIZING RADIATION

R 325.60701
Source: 2002 AACS.

R 325.60702
Source: 2002 AACS.

R 325.60703
Source: 2002 AACS.

R 325.60704
Source: 2002 AACS.

AGRICULTURAL FIELD SANITATION

R 325.61751
Source: 1997 AACS.

R 325.61752
Source: 1997 AACS.

R 325.61753
Source: 1997 AACS.

R 325.61754
Source: 1997 AACS.

R 325.61755
Source: 1997 AACS.

R 325.61756
Source: 1997 AACS.

R 325.61757
Source: 1997 AACS.

DEPARTMENT OF LABOR & ECONOMIC GROWTH

DIRECTOR'S OFFICE

PART 620. VENTILATION CONTROL FOR CONSTRUCTION

R 325.62001
Source: 2007 AACS.

R 325.62002
Source: 2007 AACS.

R 325.62003
Source: 2007 AACS.

R 325.62004
Source: 2007 AACS.

R 325.62005
Source: 2007 AACS.

R 325.62006
Source: 2007 AACS.

DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS

DIRECTOR'S OFFICE

OCCUPATIONAL HEALTH STANDARDS

PART 621. HEALTH HAZARD CONTROL FOR SPECIFIC EQUIPMENT AND OPERATIONS FOR CONSTRUCTION

R 325.62102
Source: 2014 AACS.

R 325.62104
Source: 2014 AACS.

R 325.62105
Source: 2014 AACS.

R 325.62106
Source: 2014 AACS.

R 325.62107
Source: 2014 AACS.

R 325.62109
Source: 2014 AACS.

R 325.62110
Source: 2014 AACS.

R 325.62115
Source: 2014 AACS.

R 325.62116
Source: 2014 AACS.

R 325.62117
Source: 2014 AACS.

R 325.62118
Source: 2014 AACS.

R 325.62119
Source: 2014 AACS.

R 325.62120
Source: 2014 AACS.

R 325.62125
Source: 2014 AACS.

R 325.62126
Source: 2014 AACS.

DEPARTMENT OF LABOR & ECONOMIC GROWTH

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UNDERGROUND CONSTRUCTION, CAISSONS, COFFERDAMS, AND COMPRESSED AIR

R 325.62991
Source: 2004 AACS.

R 325.62992
Source: 2004 AACS.

R 325.62993
Source: 1998-2000 AACS.

R 325.62994
Source: 2004 AACS.

R 325.62995
Source: 2004 AACS.

R 325.62996
Source: 2004 AACS.

PERMIT-REQUIRED CONFINED SPACES

R 325.63001
Source: 1998-2000 AACS.

R 325.63002
Source: 1998-2000 AACS.

R 325.63049
Source: 1998-2000 AACS.

OH STANDARD RULE 6610 - MEDICAL SERVICES AND FIRST AID

R 325.66201
Source: 2002 AACS.

DEPARTMENT OF LABOR AND ECONOMIC GROWTH

DIRECTOR'S OFFICE

OCCUPATIONAL HEALTH STANDARDS

R 325.66401
Source: 2005 AACS.

PART 681. RADIATION IN CONSTRUCTION: IONIZING AND NONIONIZING

R 325.68101
Source: 2005 AACS.

R 325. 68102
Source: 2005 AACS.

BLOODBORNE INFECTIOUS DISEASES

R 325.70001
Source: 2001 AACS.

R 325.70001a
Source: 2014 AACS.

R 325.70002
Source: 2014 AACS.

R 325.70003
Source: 2014 AACS.

R 325.70004
Source: 2014 AACS.

R 325.70005
Source: 1996 AACS.

R 325.70006
Source: 1993 AACS.

R 325.70007
Source: 2014 AACS.

R 325.70008
Source: 2014 AACS.

R 325.70009
Source: 2014 AACS.

R 325.70010
Source: 1993 AACS.

R 325.70011
Source: 2014 AACS.

R 325.70012
Source: 1996 AACS.

R 325.70013
Source: 2014 AACS.

R 325.70014
Source: 2014 AACS.

R 325.70015
Source: 2014 AACS.

R 325.70016
Source: 2014 AACS.

R 325.70017
Source: 2014 AACS.

R 325.70018
Source: 2014 AACS.

HAZARDOUS WORK IN LABORATORIES

PART 431. HAZARDOUS WORK IN LABORATORIES

R 325.70101
Source: 2014 AACS.

R 325.70102
Source: 2003 AACS.

R 325.70102a
Source: 2014 AACS.

R 325.70103
Source: 2014 AACS.

R 325.70104
Source: 2003 AACS.

R 325.70105
Source: 2003 AACS.

R 325.70106
Source: 2003 AACS.

R 325.70107
Source: 2014 AACS.

R 325.70108
Source: 2003 AACS.

R 325.70109
Source: 2014 AACS.

R 325.70110

Source: 2014 AACS.

R 325.70111
Source: 2014 AACS.

R 325.70112
Source: 2003 AACS.

R 325.70113
Source: 2014 AACS.

R 325.70114
Source: 2014 AACS.

DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

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OCCUPATIONAL HEALTH STANDARDS

R 325.70251
Source: 2001 AACS.

HAZARD COMMUNICATION

R 325.77001
Source: 2014 AACS.

R 325.77002
Source: 2014 AACS.

R 325.77003
Source: 2014 AACS.

R 325.77004
Source: 2014 AACS.

PART 311. BENZENE

R 325.77101
Source: 2014 AACS.

R 325.77101a
Source: 2014 AACS.

R 325.77102
Source: 2014 AACS.

R 325.77103
Source: 1989 AACS.

R 325.77104 Regulated areas.
Source: 1989 AACS.

EXPOSURE MONITORING

R 325.77105
Source: 2014 AACS.

R 325.77105a
Source: 2014 AACS.

R 325.77105b
Source: 2014 AACS.

R 325.77105c
Source: 2014 AACS.

R 325.77105d
Source: 2014 AACS.

R 325.77105e
Source: 2014 AACS.

R 325.77105f
Source: 2014 AACS.

METHODS OF COMPLIANCE

R 325.77106
Source: 2014 AACS.

R 325.77106a
Source: 2014 AACS.

R 325.77107
Source: 2014 AACS.

R 325.77108
Source: 2014 AACS.

MEDICAL SURVEILLANCE

R 325.77109
Source: 2014 AACS.

R 325.77109a
Source: 2014 AACS.

R 325.77109b
Source: 2014 AACS.

R 325.77109c
Source: 2014 AACS.

R 325.77109d
Source: 2014 AACS.

R 325.77109e
Source: 2014 AACS.

R 325.77109f

Source: 2014 AACS.

R 325.77109g
Source: 2014 AACS.

R 325.77109h
Source: 2014 AACS.

R 325.77110
Source: 2014 AACS.

COMMUNICATION OF HAZARDS

R 325.77110a
Source: 2014 AACS.

R 325.77110b
Source: 2014 AACS.

R 325.77110c
Source: 2014 AACS.

RECORDKEEPING

R 325.77111
Source: 2014 AACS.

R 325.77111a
Source: 2014 AACS.

R 325.77111b
Source: 2014 AACS.

R 325.77112
Source: 2014 AACS.

R 325.77113
Source: 2014 AACS.

R 325.77114
Source: 2014 AACS.

R 325.77115
Source: 2014 AACS.

DEPARTMENT OF COMMUNITY HEALTH

HEALTH LEGISLATION AND POLICY DEVELOPMENT

LEAD HAZARD CONTROL

PART 1. GENERAL PROVISIONS

R 325.99101
Source: 2005 AACS.

R 325.99102
Source: 2007 AACS.

R 325.99103
Source: 2007 AACS.

R 325.99104
Source: 2007 AACS.

PART 2. TRAINING PROGRAMS

R 325.99201
Source: 2005 AACS.

R 325.99202
Source: 2005 AACS.

R 325.99203
Source: 2005 AACS.

R 325.99204
Source: 2005 AACS.

R 325.99205
Source: 2005 AACS.

R 325.99206
Source: 2005 AACS.

R 325.99207
Source: 2005 AACS.

R 325.99208
Source: 2005 AACS.

R 325.99209
Source: 2005 AACS.

R 325.99210
Source: 2005 AACS.

R 325.99211
Source: 2005 AACS.

R 325.99212
Source: 2005 AACS.

R 325.99213
Source: 2005 AACS.

PART 3. CERTIFIED INDIVIDUALS AND FIRMS

R 325.99301
Source: 2007 AACS.

R 325.99302
Source: 2005 AACS.

R 325.99303
Source: 2005 AACS.

R 325.99304
Source: 2007 AACS.

PART 4. WORK PRACTICE STANDARDS

R 325.99401
Source: 2005 AACS.

R 325.99402
Source: 2005 AACS.

R 325.99403
Source: 2007 AACS.

R 325.99404
Source: 2007 AACS.

R 325.99405
Source: 2005 AACS.

R 325.99406
Source: 2007 AACS.

R 325.99407
Source: 2005 AACS.

R 325.99408
Source: 2007 AACS.

R 325.99409
Source: 2007 AACS.