Please refer the following to for the most current version of these rules. These rules remain posted because the formatting of the formulas is clearer.

- https://ars.apps.lara.state.mi.us/AdminCode/DownloadAdminCodeFile?FileName=R%20323.1201%20to%20R%20323.1221.pdf

DEPARTMENT OF ENVIRONMENTAL QUALITY

WATER BUREAU

WATER RESOURCES PROTECTION

Filed with the Secretary of State on January 13, 2006

These rules become effective immediately upon filing with the Secretary of State unless adopted under sections 33, 44, 45a(6), or 48 of 1969 PA 306. Rules adopted under these sections become effective 7 days after filing with the Secretary of State.

(By authority conferred on the department of environmental quality by sections 3103 and 3106 of 1994 PA 451, MCL 324.3103 and 324.3106

R 323.1203, R 323.1205, R 323.1209, R 323.1211, R 323.1213, R 323.1217, R 323.1219, and R 323.1221 of the Michigan Administrative Code are amended to read as follows:

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

R 323.1201 Purpose.

Rule 1201. The rules in this part shall be used to establish toxic substance water quality-based effluent limits (WQBELs) for point source discharges that are protective of the designated uses of the surface waters of the state as established in R 323.1100. WQBELs for certain toxic substances may be very low and in some cases less than what current analytical techniques can detect or quantify. In some effluents, the low levels may not be amenable to regulatory control through end-of-pipe treatment technology in a cost-effective manner. To achieve compliance with the low WQBELs and associated regulatory requirements, the department is committed to, and strongly encourages, the use of pollution prevention, source control, and other waste minimization programs. End-of-pipe treatment for the low WQBELs which is extraordinary or beyond that which would be necessary if not for the low WQBELs will not be required by the department unless it is determined to be the most cost-effective means or the only means to achieve the applicable water quality-based effluent limit. The provisions of R 323.1103 may provide an alternative to extraordinary end-of-pipe treatment where such treatment would result in unreasonable economic effects on the discharger. The rules of this part shall not be used as a basis for establishing controls on the discharge of toxic substances from intermittent wet-weather point sources.

R 323.1203 Definitions; A to L.

Rule 1203. As used in this part:

(a) "Acute-chronic ratio (ACR)" means a standard measure of the acute toxicity of a material divided by an appropriate measure of the chronic toxicity of the same material under comparable conditions.

(b) "Acute toxicity" means an adverse effect that results from an acute exposure which occurs within any short observation period and which usually does not constitute a substantial portion of the life span of the organism.

(c) "Acute toxic unit (TU_a)" means $100/LC_{50}$ where the LC_{50} is determined from a whole effluent toxicity (WET) test which produces a result that is statistically or graphically estimated to be lethal to 50% of the test organisms.

(d) "Aquatic life value" means a tier I or tier II value developed under R 323.1057(2).

(e) "Bioaccumulation equivalency factor (BEF)" means the bioaccumulation potential for the toxicologically important chlorinated dibenzo-p-dioxins and chlorinated dibenzo-p-furans relative to 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD) for use in calculating 2,3,7,8-TCDD toxicity equivalency concentrations in water as the 2,3,7,8-TCDD toxicity equivalency concentrations relate to deriving human health water quality values.

(f) "Bioaccumulation factor (BAF)" means the ratio, in liters per kilogram, of a substance's concentration in tissue of an aquatic organism to its concentration in the ambient water where both the organism and its food are exposed and the ratio does not change substantially over time.

(g) "Bioaccumulative chemical of concern (BCC)" means a chemical which, upon entering the surface waters, by itself or as its toxic transformation product, accumulates in aquatic organisms by a human health bioaccumulation factor (BAF) of more than 1000 derived after considering metabolism and other physiochemical properties that might enhance or inhibit bioaccumulation. The human health bioaccumulation factor shall be derived according to R 323.1057(5). Chemicals with half-lives of less than 8 weeks in the water column, sediment, and biota are not BCCs. The minimum BAF information needed to define an organic chemical as a BCC is either a field-measured BAF or a BAF derived using the biota-sediment accumulation factor (BSAF) methodology. The minimum BAF information needed to define an inorganic chemical as a BCC, including an organometal, is either a field-measured BAF or a laboratory-measured bioconcentration factor (BCF). The BCCs to which these rules apply are identified in table 5 of R 323.1057.

(h) "Bioconcentration factor (BCF)" means the ratio, in liters per kilogram, of a substance's concentration in tissue of an aquatic organism to its concentration in the ambient water in situations where the organism is exposed through the water only and the ratio does not change substantially over time.

(i) "Biota-sediment accumulation factor (BSAF)" means the ratio, in kilograms of organic carbon per kilogram of lipid, of a substance's lipid-normalized concentration in tissue of an aquatic organism to its organic carbon-normalized concentration in surface sediment in situations where the ratio does not change substantially over time, both the organism and its food are exposed, and the surface sediment is representative of average surface sediment in the vicinity of the organism.

(j) "Carcinogen" means a substance which causes an increased incidence of benign or malignant neoplasms in animals or humans or that substantially decreases the time in which neoplasms develop in animals or humans.

(k) "Chemical-specific water quality-based effluent limit" means water quality-based effluent limits that are based on an individual chemical.

(l) "Chronic toxicity" means a concurrent and delayed adverse effect that occurs only as a result of a chronic exposure.

(m) "Chronic toxic unit (TU_c)" means 100/MATC or $100/IC_{25}$, where the maximum acceptable toxicant concentration (MATC) and IC_{25} are expressed as a percent effluent in the test medium.

(n) "Clean water act" means the federal water pollution control act codified at 33 U.S.C. §1251 et seq., as amended.

(o) “Daily maximum water quality-based effluent limit” means an effluent specific water quality-based effluent limit in an NPDES permit developed to protect aquatic life from acute chemical specific or whole effluent toxicity.

(p) “Department” means the director of the Michigan department of environmental quality, or his or her designee to whom the director delegates a power or duty by written instrument.

(q) “Detection level” means the lowest concentration or amount of the target analyte that can be determined to be different from zero by a single measurement at a stated level of probability.

(r) “Discharge-induced mixing” means the mixing of a discharge and receiving water that occurs due to discharge momentum and buoyancy up to the point where mixing is controlled by ambient turbulence.

(s) “Dissolved metal” means the concentration of a metal that will pass through a 0.45-μm membrane filter.

(t) “Existing discharge” means any building, structure, facility, or installation from which there is or may be a discharge of toxic substances to the surface waters of the state that is not a new discharge.

(u) “Final acute value (FAV)” means the level of a chemical or mixture of chemicals that does not allow the mortality or other specified response of aquatic organisms to exceed 50% when exposed for 96 hours, except where a shorter time period is appropriate for certain species. The FAV shall be calculated under R 323.1057(2) if appropriate for the chemical.

(v) “Human cancer value (HCV)” means the maximum ambient water concentration of a substance at which a lifetime of exposure from either drinking the water, consuming fish from the water, and conducting water-related recreation activities or consuming fish from the water and conducting water-related recreation activities will represent a plausible upper bound risk of contracting cancer of 1 in 100,000 using the exposure assumptions and methodology specified in R 323.1057(4).

(w) “Human noncancer value (HNV)” means the maximum ambient water concentration of a substance at which adverse noncancer effects are not likely to occur in the human population from lifetime exposure through either drinking the water, consuming fish from the water, and conducting water-related recreation activities or consuming fish from the water and conducting water-related recreation activities using the exposure assumption and methodology in R 323.1057(4).

(x) “Intake toxic substance” means the amount of a toxic substance that is present in surface or groundwaters of the state at the time the toxic substance is withdrawn from the waters by the discharger or present in the water provided to the discharger by another facility.

(y) “Intermittent wet-weather point source” means a point source discharge that occurs as a result of a rainfall or snowmelt event. An intermittent wet-weather point source includes a treated or untreated combined sewer overflow, but does not include a storm water discharge that is mixed with other industrial or commercial wastewater or an increased discharge from a municipal wastewater treatment plant due to a rainfall or snowmelt event.

(z) “IC_{25}” means the toxicant concentration that would cause a 25% reduction in a nonquantal biological measurement for the test population.

(aa) “LC_{50}” means a statistically or graphically estimated concentration that is expected to be lethal to 50% of a group of organisms under specified conditions.

(bb) “Load allocation” means the portion of a receiving water’s loading capacity that is attributed to existing or future nonpoint sources, including natural background sources.

(cc) “Loading capacity” means the greatest amount of pollutant loading that a water can receive without violating water quality standards.

(dd) “Lotic” means surface waters of the state that exhibit flow.

R 323.1205 Definitions; M to Z.

Rule 1205. As used in this part:

(a) “Mass load” means a wasteload allocation specified in units of weight per time.

(b) “Maximum acceptable toxicant concentration (MATC)” means the concentration obtained by calculating the geometric mean of the lower and upper chronic limits from a chronic test. A lower chronic limit is the highest tested concentration that did not cause the occurrence of a specific adverse effect. An upper chronic limit is the lowest tested concentration which did cause the occurrence of a specific adverse effect and above which all tested concentrations caused such an occurrence.

(c) “Minimum level” means the level at which the entire analytical system must give a recognizable signal and acceptable calibration point. It is equivalent to the concentration of the lowest calibration standards, assuming that all method-specified sample weights, volumes, and cleanup procedures have been employed.

(d) “Mixing zone” means the portion of a water body in which a point source discharge or venting groundwater is mixed with the receiving water.

(e) “Monthly average water quality-based effluent limit (WQBEL)” means an effluent specific water quality-based effluent limit in a national pollutant discharge elimination system (NPDES) permit developed to protect aquatic life, human health, and wildlife from chronic chemical specific toxicity or aquatic life from chronic whole effluent toxicity.

(f) “National pollutant discharge elimination system (NPDES)” means a permit issued by the department to a discharger pursuant to sections 3106 and 3112 of 1994 PA 451, MCL 324.3106 and 324.3112.

(g) “New discharge” means any building, structure, facility, or installation from which there is or may be a discharge of toxic substances to the surface waters of the state, the construction of which commenced after July 29, 1997.

(h) “Nonpoint source” means a source of a toxic substance to the surface waters of the state other than a source defined as a point source.

(i) “Permittee” means the individual or facility that is issued an NPDES permit.

(j) “Point source” means a discharge that is released to the surface waters of the state by a discernible, confined, and discrete conveyance, including any of the following from which wastewater is or may be discharged:

(i) A pipe.

(ii) A ditch.

(iii) A channel.

(iv) A tunnel.

(v) A conduit.

(vi) A well.

(vii) A discrete fissure.

(viii) A container.

(ix) A concentrated animal feeding operation.

(x) A boat or other watercraft.

(k) “Pollution prevention” means eliminating or minimizing the initial generation of waste at the source or utilizing environmentally sound on-site and off-site reuse or recycling. Waste treatment, release, or disposal is not considered pollution prevention.

(l) “Quantification level” means the measurement of the concentration of a contaminant obtained by using a specified laboratory procedure calculated at a specified concentration above the detection level. It is considered the lowest concentration at which a particular

contaminant can be quantitatively measured using a specified laboratory procedure for monitoring of the contaminant.

(m) "Raw water" means the surface waters of the state before any treatment.

(n) "Receiving water" means the surface waters of the state into which an effluent is or may be discharged.

(o) "Same body of water" means that, for purposes of evaluating intake toxic substances consistent with R 323.1211, the department will consider intake toxic substances to be from the same body of water if the department finds that the intake toxic substance would have reached the vicinity of the outfall point in the receiving water within a reasonable period had it not been removed by the permittee and there is a direct hydrological connection between the intake and the discharge points. Notwithstanding the provisions of this subdivision, an intake toxic substance shall be considered to be from the same body of water if the permittee's intake point is located on a Great Lake and the outfall point is in close proximity to the intake point and is located on a tributary of that Great Lake. In this situation, the background concentration of the toxic substance in the receiving water shall be similar to or greater than that in the intake water and a difference in any water quality characteristic between the intake and receiving water shall not result in an adverse impact on the receiving water. Groundwater sources of intake water can also be considered the same body of water if both of the following conditions are met:

(i) The groundwater vents to the same surface water body where the discharge is located.

(ii) The concentration of the intake toxic substance in the groundwater source is similar to the background groundwater concentration which exists at or regionally proximate to the groundwater source that is not attributable to any release at or regionally proximate to the source. Release shall be defined consistent with the September, 1996, revisions to section 324.20101 of 1994 PA 451, MCL 324.20101. Where a release has influenced the concentration of the toxic substance in the groundwater source, a same body of water determination shall be made by the department on a case-by-case basis. For purposes of this paragraph, the background groundwater concentration of the intake toxic substance shall be established at the time of permit issuance, reissuance, or modification based on data available to the department or data provided by the permittee from at least 1 representative location.

(p) "Surface waters of the state" means all of the following, but does not include drainage ways and ponds used solely for wastewater conveyance, treatment, or control:

(i) The Great Lakes and their connecting waters.

(ii) All inland lakes.

(iii) Rivers.

(iv) Streams.

(v) Impoundments.

(vi) Open drains.

(vii) Wetlands.

(viii) Other surface bodies of water within the confines of the state.

(q) "Tier I value" means a value for aquatic life, human health**,** or wildlife calculated under R 323.1057 using a tier I toxicity data base.

(r) "Tier II value" means a value for aquatic life or human health calculated under R 323.1057 using a tier II toxicity data base.

(s) "Toxicity equivalency factor (TEF)" means a reasonable estimate of the toxicity associated with a mixture of chlorinated dibenzo-p-dioxins and chlorinated dibenzo-p-furans relative to the toxicity of 2,3,7,8-tetrachlorodibenzo-p-dioxin.

(t) "Toxicity reduction evaluation (TRE)" means a site-specific study conducted in a stepwise process designed to identify the causative agents of effluent toxicity, isolate the

sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in effluent toxicity.

(u) "Toxic substance" means a substance, except for heat, that is present in a sufficient concentration or quantity that is or may become harmful to plant life, animal life, or designated uses. These rules apply to all of the following toxic substances:

(i) The priority pollutant and hazardous chemicals specified in the provisions of 40 C.F.R. §122.21, Appendix D (1990), which are adopted by reference in R 323.1221.

(ii) The pollutants of initial focus specified in the provisions of 40 C.F.R. Part 132 (1995), water quality guidance for the Great Lakes system, which are adopted by reference in R 323.1221.

(iii) The pollutants specified in table 1.

(iv) Any other toxic substances that the department determines are of concern at a specific site.

(v) "Translator" means a value used to predict the ratio of total or total recoverable metal to dissolved metal in a surface water of the state that is then used to derive a total or total recoverable water quality-based effluent limit using dissolved aquatic life tier I or tier II values.

(w) "Venting groundwater" means groundwater that is entering a surface water of the state from a facility as defined in section 20101 of 1994 PA 451, MCL 324.20101.

(x) "Wasteload allocation (WLA)" means the allocation for an individual point source which is developed in accordance with R 323.1209 and which ensures that the level of water quality to be achieved by the point source complies with all applicable water quality standards.

(y) "Water quality-based effluent limit (WQBEL)" means an effluent limit developed for an NPDES permit that will ensure that the level of water quality to be achieved by the point source complies with all applicable water quality standards.

(z) "Water quality standards" means the Part 4. Water Quality Standards developed under Part 31 of 1994 PA 451, MCL 324.3101 et seq.

(aa) "Water quality value" means a tier I or tier II aquatic life or human health value or tier I wildlife value developed under R 323.1057.

(bb) "Wetland" means land characterized by the presence of water at a frequency and duration sufficient to support, and that under normal circumstances does support, wetland vegetation or aquatic life.

(cc) "Whole effluent toxicity" means the total toxic effect of an effluent measured directly with a toxicity test under R 323.1219.

(dd) "Wildlife value" means the maximum ambient water concentration of a substance at which adverse effects are not likely to result in population-level impacts to mammalian and avian wildlife populations from lifetime exposure through drinking water and aquatic food supply, using the methodology specified in R 323.1057(3).

Table 1.

1-amino-2-methylanthraquinone
1-chloro-4-phenoxybenzene
1,1,1,2-tetrachloroethane
1,2-epoxybutane
1,2,3-trichlorobenzene
1,2:3,4-diepoxybutane
1,2,3,5-tetrachlorobenzene
1,3-butadiene
1,3-propane sultone
1,4-dioxane
1,5-naphthalenediamine
2-acetylaminofluorene
2-aminoanthraquinone
2-methyl-1-nitroanthraquinone
2-naphthylamine
2-nitropropane
2,4-diaminoanisole sulfate
2,4-diaminotoluene
2,3,4,5-tetrachlorophenol
2,3,4,6-tetrachlorophenol
2,3,5,6-tetrachlorophenol
2,4,5-trichlorophenol
2,4,5-trichlorotoluene
2,4,5-trimethylaniline
3-amino-9-ethylcarbazole
3-amino-9-ethylcarbazole hydrochloride
3-(chloromethyl)pyridine hydrochloride
4-aminobiphenyl
4-chloro-m-phenylenediamine
4-chloro-o-phenylenediamine
4-dimethylaminoazobenzene
4,4'-diaminodiphenyl ether
4,4'-methylenebis (2-methylaniline)
4,4'-methylenebis(N,N-dimethyl) benzenamine
4,4'-thiodianiline
5-chloro-o-toluidine
5-nitro-o-anisidine
5-nitroacenaphthene
Abietic ccid
Acetone cyanohydrin
Actinomycin D
Aflatoxins
Aldicarb
Aminoazobenzene
Amitrole
Anilazine
Aniline hydrochloride
Antimycin A
Aramite
Azinphos-ethyl
Azinphos-methyl
Azobenzene
Barban
Bendiocarb
Benomyl
Bis(chloromethyl)ether
Bromomethane
Bromoxynil
Butylbutanol nitrosamine
Captafol
Carbophenothion
Chloramines
Chlordecone
Chlorfenvinphos
Chlorinated dibenzofurans
Chlorobenzilate
Chloromethane
Chloroprene
Clonitralid
Crotoxyphos
Cupferron
Cycasin
Cycloheximide
Cyclophosphamide
Dehydroabietic acid
Demeton
Diallate
Dibromochloropropane (DBCP)
Dichrotophos
Diethylhexyl phthalate
Diethylstilbestrol
Dihydrosafrole
Dimethoate
Dimethyl disulphide
Dimethyl sulfate
Dimethylhydrazines
Dinocap
Dinoseb
Dioxathion
Diphenyl ether
EPN
Ethyl chloride
Ethylene oxide
Ethylene thiourea
Ethyleneimine
Ethylmethanesulfonate

Fensulfothion
Fluchloralin
Furathiazole
Hexachlorocyclohexane
Hexamethylphosphoramide
Hydrazine
Hydrazobenzene
Hydrogen sulfide
Hydroquinone
Isonicotinic acid hydrazine
Kanechlor C
Ketene
Lactonitrile
Lasiocarpine
Leptophos
Malachite green
Mestranol
Methacrylonitrile
Methomyl
Methyl chloroform
Methyl hydrazine
Methylenebis(2-chloroaniline)
Methylthiouracil
Mitomycin C
Monocrotaline
Monocrotophos
Mustard gas
N-(2-hydroxyethyl) ethyleneimine
N-methyl formamide
N,N'-diethylthiourea
N-nitroso-di-N-butylamine
N-nitroso-N-ethylurea
N-nitroso-N-methylurea
N-nitrosodiethylamine
N-nitrosomethylvinylamine
N-nitrosomorpholine
N-nitrososarcosine
Neoabietic acid
Nifurthiazole
Niridazole
Nithiazide
Nitrofen
Nitrogen mustard
o-Aminoazotoluene
o-Anisidine
o-Anisidine hydrochloride
o-Phenylphenol
o-Toluidine
o-Toluidine hydrochloride
Octachlorostyrene
Oxydemetonmethyl
p-Chlorophenol
p-Cresidine
p-Nitrosodiphenylamine
Paraquat
Pentachloronitrobenzene
Phenazopyridine hydrochloride
Phenesterin
Phenobarbitol
Phenytoin sodium
Phorate
Phosazetim
Phosmet
Phosphamidon
Piperonyl sulfoxide
Polybrominated biphenyls (PBB)
Polychlorinated naphthalenes
Propyleneimine
Propylthiouracil
Rotenone
Semicarbazide
Semicarbazide hydrochloride
Silvex
Sodium fluoroacetate
Sodium-o-phenylphenol
Sulfallate
Sulfotepp
TEPP
Terbufos
Tetrachloroguaiacol
Tetrachlorvinphos
Tetranitromethane
Thioacetamide
Thiourea
Thiram
Triaryl phosphate esters
Tributyltin (and salts and esters)
Trichlorfon
Trifluralin
Trimethylphosphate
Tris(2,3-dibromopropyl)phosphate
Uracil mustard
Urethane
Vinyl bromide
Ziram

R 323.1207 Total maximum daily loads.

Rule 1207. (1) The following general principles are applicable to establishing total maximum daily loads (TMDLs) for toxic substances in the surface waters of the state, with the exception of whole effluent toxicity:

(a) TMDLs shall ensure attainment of applicable water quality standards for the toxic substances for which they are established and shall, at a minimum, be developed in accordance with the listing and priority setting process established in section 303(d) of the clean water act and 40 C.F.R. §130.7. Where water quality standards cannot be attained immediately, TMDLs shall reflect reasonable assurances that water quality standards will be attained in a reasonable period of time, with specific controls on individual sources being implemented in stages. Determining the reasonable period of time in which water quality standards will be met is a case-specific determination considering a number of factors, including all of the following factors:

(i) Receiving water characteristics.

(ii) Persistence, behavior, and ubiquity of toxic substance of concern.

(iii) Type of remediation activities necessary.

(iv) Available regulatory and nonregulatory controls.

(v) Department requirements for attainment of water quality standards.

(vi) Technical and economic feasibility of attainment.

(b) TMDLs shall include wasteload allocations (WLAs) for point sources addressed by these rules and load allocations (LAs) for nonpoint sources, including background, such that the sum of the allocations plus a specified margin of safety (MOS) is not greater than the loading capacity of the water for the toxic substance addressed by the TMDL. TMDL allocations are as follows:

(i) Nonpoint source LAs shall be based on all of the following factors:

(A) Existing toxic substance loadings if changes in loadings are not reasonably anticipated to occur.

(B) Increases in toxic substance loadings that are reasonably anticipated to occur.

(C) Anticipated decreases in toxic substance loadings if the decreased loadings are technically feasible and are reasonably anticipated to occur within a reasonable time period as a result of implementation of best management practices or other load reduction measures. In determining whether anticipated decreases in toxic substance loadings are technically feasible and can be expected to occur within a reasonable period of time, technical and institutional factors shall be considered. These decisions are case-specific and shall reflect the particular TMDL under consideration.

(ii) The sum of the WLAs is the portion of the loading capacity that is not assigned to an MOS or to nonpoint sources including background. National pollutant discharge elimination system (NPDES) permits for the point sources shall include effluent limitations consistent with WLAs in TMDLs.

(c) If separate TMDLs are prepared for different, but overlapping, segments of the same watershed and the separate TMDLs each include WLAs for the same toxic substances for 1 or more of the same point sources, then WQBELs for that toxic substance for the point source or sources shall be consistent with the most stringent of the WLAs to ensure attainment of all applicable water quality standards.

(d) Each TMDL shall include an MOS sufficient to account for technical uncertainties in establishing the TMDL and shall describe the manner in which the MOS is determined and incorporated into the TMDL. The MOS may be provided by leaving a portion of the loading capacity unallocated or by using conservative modeling assumptions to establish WLAs and LAs. The MOS may also include reserved allocation for future growth.

(e) Where appropriate and where sufficient data or sediment criteria are available, TMDLs shall prevent the accumulation of the toxic substance in the sediment to levels injurious to designated or existing uses and shall reflect contributions to the water column from the sediments.

(f) Where appropriate and where sufficient data are available, TMDLs shall reflect loadings of toxic substance discharges resulting from wet-weather events.

(g) The representative background concentration of toxic substances to develop TMDLs and WLAs calculated in the absence of a TMDL shall be established as follows:

(i) "Background" represents all toxic substance loadings as specified by the following:

(A) Flow from upstream waters into the specified watershed, water body, or water body segment for which a TMDL or WLA in the absence of a TMDL is being developed.

(B) Enter the specified watershed, water body, or water body segment through atmospheric deposition, chemical reaction, or sediment release or resuspension.

(ii) When determining what available data are acceptable for use in calculating background, the department shall use its best professional judgment, including consideration of the sampling location and the reliability of the data through comparison, in part, to detection and quantification levels. When data in more than 1 of the data sets or categories described in paragraph (iii) of this subdivision exists, best professional judgment shall be used to select the data that most accurately reflects or estimates background concentrations. Toxic substance degradation and transport information may be considered when using toxic substance loading data to estimate a water column concentration.

(iii) The representative background concentration for a toxic substance in the specified watershed, water body, or water body segment shall be established as the geometric mean of acceptable water column data or water column concentrations estimated through the use of acceptable or projected toxic substance loading data. When determining the geometric mean of the data for a toxic substance that includes values both above and below the detection level, values less than the detection level shall be assumed to be present at 1/2 of the detection level if the detection level is less than the lowest water quality value for that substance. If all of the acceptable data in a data set are below the detection level for a toxic substance, then all the data for the toxic substance in that data set shall be assumed to be zero. If the detection level of the available data is greater than the lowest water quality value for the substance, then the background concentration will be determined by the department on a case-by-case basis after considerating all representative data, including acceptable fish tissue data.

(h) If the margin of safety does not include a reserved allocation, then any increased loadings of the toxic substance for which the TMDL was developed that are due to a new or expanded discharge shall not be allowed unless the TMDL is revised in accordance with these procedures to include an allocation for the new or expanded discharge.

(2) If the department develops an alternative type of assessment and remediation plan that meets the requirements of this rule and public participation requirements applicable to TMDLs, then the assessment and remediation plan may be used instead of a TMDL. The assessment and remediation plans may include lakewide management plans, remedial action plans for the areas of concern designated by the international joint commission, and state water quality management plans. Also, any part of an assessment and remediation plan that satisfies 1 or more requirements under section 303(d) of the clean water act or implementing regulations may be incorporated by reference into a TMDL as appropriate. Assessment and remediation plans under this subrule shall be tailored to the level of detail and magnitude for the watershed and toxic substance being assessed.

(3) Design flows for establishing TMDLs in lotic waters are given in R 323.1090.

(4) If a TMDL has been established for a water body receiving the direct discharge of point sources, then the chronic WLA for each point source shall equal a fraction of the loading capacity assigned to point sources that discharge to the water body, but shall not be greater than the chronic WLA established by the procedures in R 323.1209, unless the TMDL reflects anticipated decreases in nonpoint source loadings through a phased approach to water quality standards attainment. Acute WLAs shall be established in accordance with R 323.1209.

(5) It is not necessary to establish a TMDL for all waters that may be affected by a point source or nonpoint source before establishing a WLA or LA for the respective sources.

(6) TMDLs and WLAs in the absence of a TMDL shall be based on the assumption that environmental fate or other physical, chemical, or biological factors do not affect the concentration of the toxic substances in the water column, unless both of the following occur:

(a) Scientifically valid field studies or other relevant information demonstrate that degradation of the toxic substance is expected to occur during typical environmental conditions expected to be encountered.

(b) Scientifically valid field studies or other information address other factors that affect the level of toxic substance in the water column including:

(i) Sediment release or resuspension.

(ii) Chemical speciation.

(iii) Biological and chemical transformation.

R 323.1209 Development of wasteload allocations for toxic substances.

Rule 1209. (1) In the absence of a total maximum daily load (TMDL) established under R 323.1207, or where consistent with a TMDL, the following procedure shall be used to calculate individual point source wasteload allocations (WLAs) for aquatic life, human health, and wildlife values consistent with the requirements of R 323.1211(2):

(a) Chronic WLAs for discharges to lotic waters shall be developed for the toxic substance as follows:

$$WLA = \frac{Zt\ (Qe + Qr) - (Qr)(Cr)}{Qe}$$

or

$$WLA = \frac{(Zd)(T)\ (Qe + Qr) - (Qr)(Cr)}{Qe}$$

Where:

Zt = water quality value developed for the toxic substance expressed as total or total recoverable.

Zd = water quality value for aquatic life expressed as dissolved metal. Values expressed as dissolved, but for which a translator (T) is not available, shall be expressed as total or total recoverable for purposes of this subdivision.

T = dissolved to total metal translator for aquatic life wasteload allocations. For the metals in table 2, T equals the given value or one derived from site-specific data. For metals not listed in table 2, T is equal to a translator derived by the department when sufficient information is available or from site-specific data.

Qe = effluent design flow, which is the annual average design flow for municipalities and maximum authorized flow for other facilities, unless it can be demonstrated to the department that an alternate design flow is appropriate.

Qr = flow of the receiving water allocated for mixing under R 323.1082. If a discharger has an intake upstream of the point of discharge, then Qr shall reflect the reduction in the design flow volume attributable to the intake.

Cr = receiving water background concentration of the toxic substance developed under R 323.1207(1)(g).

The lowest of the WLAs developed under this subdivision for the chronic aquatic life, human health, or wildlife values for each toxic substance shall be the basis for the water quality-based effluent limit (WQBEL) as specified in R 323.1211(4)(a).

Table 2.
Dissolved to total metal translators for aquatic life wasteload allocations.

Toxic Substance	Translator (T)
Cadmium	2.1
Chromium	1.5
Copper	1.5
Lead	4.5
Nickel	1.1
Zinc	2.1

(b) Chronic WLAs for discharges to the Great Lakes and inland lakes shall be developed for a toxic substance as follows:

WLA = (Zt)(1 + Q) - (Cr)(Q)

or

WLA = (Zd)(T)(1 + Q) - (Cr)(Q)

Where:

Zt = the lowest water quality value developed for the toxic substance expressed as total or total recoverable.

Zd = water quality value for aquatic life expressed as dissolved metal. Values expressed as dissolved, but for which a translator (T) is not available, shall be expressed as total or total recoverable for purposes of this subdivision.

T = dissolved to total translator for aquatic life wasteload allocations. For the metals in table 2, T equals the given value or one derived from site-specific data. For the metals not listed in table 2, T is equal to a translator derived by the department when sufficient information is available or from site-specific data.

Q = number of parts receiving water allocated for mixing under R 323.1082(5).

Cr = receiving water background concentration of the toxic substance developed under R 323.1207(1)(g).

The lowest of the WLAs developed under this subdivision for the chronic aquatic life, human health, or wildlife values for each toxic substance shall be the basis for the WQBEL as specified in R 323.1211(4)(a).

(2) If the receiving water background concentration (Cr) of a toxic substance exceeds the most stringent applicable water quality value for that substance, then the WLA shall be established equal to the most stringent water quality value~~s~~, unless the provisions of R 323.1211(7)(d) allow for a different approach.

(3) WLAs based upon acute aquatic life protection shall not exceed the following acute WLA, unless it can be demonstrated to the department that a higher level is acceptable under R 323.1082(1)**:**

WLA = (At)
or
WLA = (Ad)(T)

Where:

At = the final acute value developed for the toxic substance under R 323.1057 expressed as total or total recoverable.

Ad = final acute value for aquatic life expressed as dissolved metal under R 323.1057. Values expressed as dissolved, but for which a translator (T) is not available, shall be expressed as total or total recoverable for purposes of this subdivision.

T= dissolved to total translator for aquatic life wasteload allocations. For the metals in table 2, T equals the given value or one derived from site-specific data. For the metals not listed in table 2, T is equal to a translator derived by the department when sufficient information is available or from site-specific data.

(4) When establishing WLAs based on human health values for individual point source discharges, the potential interaction between multiple toxic substances in the effluent shall be addressed by the following provisions:

(a) If an effluent contains carcinogens for which available scientific information supports a reasonable assumption that the toxic substances produce the same type of cancer through the same mechanism of action and for which WQBELs are required pursuant to R 323.1211 on an individual basis, then the total incremental risk created by the effluent in the surface waters of the state after mixing with the allowable receiving water body volume specified in R 323.1082 shall not exceed 1×10^{-5} for individual carcinogens and 1×10^{-4} for the total effluent. This additivity provision shall be implemented on a case-by-case basis and shall be evaluated at each facility independent of other carcinogens that may be present in the receiving water.

(b) If an effluent contains 2 or more noncarcinogens for which available scientific information supports a reasonable assumption that the toxic substances produce the same adverse effects through the same mechanisms of action and for which WQBELs are required under R 323.1211 on an individual basis, then the noncarcinogenic effects of the chemicals may be assumed additive and considered by the department when calculating WLAs protective of human health. This subdivision shall be implemented on a case-by-case basis and shall be evaluated at each facility independent of other noncarcinogens that may be present in the receiving stream.

(c) Notwithstanding the requirements in subdivisions (a) and (b) of this subrule, human health-based WLAs for the chlorinated dibenzo-p-dioxins (CDDs) and chlorinated dibenzofurans (CDFs) listed in table 2 shall be calculated using the following procedures:

(i) The human cancer value and human noncancer value for 2,3,7,8-TCDD shall be used consistent with the procedures in subrules (1) and (2) of this rule to calculate total 2,3,7,8-TCDD toxicity equivalence WLAs for effluents.

(ii) The toxicity equivalency factors (TEFs) and bioaccumulation equivalency factors (BEFs) in table 3 shall be used to calculate a 2,3,7,8-TCDD toxicity equivalence concentration for an effluent when implementing the WLAs derived in paragraph (i) of this subdivision. The equation for calculating the 2,3,7,8-TCDD toxicity equivalence concentration in an effluent is as follows:

$$(TEC)_{TCDD} = \Sigma(C)_x(TEF)_x(BEF)_x$$

Where:

$(TEC)_{TCDD}$ = 2,3,7,8-TCDD toxicity equivalence concentration in the discharge.

$(C)_x$ = the concentration of congener x in the discharge.

$(TEF)_x$ = toxicity equivalency factor for congener x.

$(BEF)_x$ = bioaccumulation equivalency factor for congener x.

Table 3. Toxicity equivalency factors and BEFs for CDDs and CDFs.

Congener	TEF	BEF
2,3,7,8-TCDD	1.0	1.0
1,2,3,7,8-PeCDD	0.5	0.9
1,2,3,4,7,8-HxCDD	0.1	0.3
1,2,3,6,7,8-HxCDD	0.1	0.1
1,2,3,7,8,9-HxCDD	0.1	0.1
1,2,3,4,6,7,8-HpCDD	0.01	0.05
OCDD	0.001	0.01
2,3,7,8-TCDF	0.1	0.8
1,2,3,7,8-PeCDF	0.05	0.2
2,3,4,7,8-PeCDF	0.5	1.6
1,2,3,4,7,8-HxCDF	0.1	0.08
1,2,3,6,7,8-HxCDF	0.1	0.2
2,3,4,6,7,8-HxCDF	0.1	0.7
1,2,3,7,8,9-HxCDF	0.1	0.6
1,2,3,4,6,7,8-HpCDF	0.01	0.01
1,2,3,4,7,8,9-HpCDF	0.01	0.4
OCDF	0.001	0.02

R 323.1211 Reasonable potential for chemical-specific water quality-based effluent limits (WQBELs).

Rule 1211. (1) Chemical-specific water quality-based effluent limits (WQBELs) shall be incorporated into a national pollutant discharge elimination system (NPDES) permit where the department determines that a toxic substance is or may be discharged into the waters of the state at a level that has the reasonable potential to cause or contribute to an excursion above any water quality value. The determination shall be made by developing preliminary effluent limitations (PELs) and comparing the effluent limitations to the potential effluent quality (PEQ) of the discharge.

(2) PELs shall be developed for each toxic substance that the permittee reports as known or believed to be present in its discharge using the wasteload allocation (WLA) provisions specified in R 323.1207 or R 323.1209. At a minimum, PELs are required and shall be developed for the protection of aquatic life and noncancer human health effects where aquatic life values, human noncancer values, or the minimum data to calculate the aquatic life or human noncancer values are available. If there are insufficient data to calculate aquatic life or human noncancer values, then the department shall follow the provisions in subrule (6) of this rule. PELs shall also be developed for the protection of wildlife and human health cancer effects where human cancer values, wildlife values, or the minimum data to calculate human cancer or wildlife values are available.

(3) The PEQs shall be determined by either of the following procedures:

(a) If 10 or more representative facility-specific effluent samples are available that are greater than the detection limit, then the maximum PEQ shall equal the upper ninetififth percentile of all the representative daily discharge concentrations and the average PEQ shall equal the upper ninetififth percentile of all the representative 30-day average discharge concentrations. The upper ninetififth percentile of the daily discharge concentrations and 30-day average discharge concentrations shall be calculated as follows:

$$P_{95} = \exp (mu_{dn} + Z_p \, sigma_{dn})$$

Where:

P_{95} = upper ninetififth percentile of n-day average discharge concentrations.

d = ratio of the number of daily discharge concentrations less than the limit of detection to the total number of discharge concentrations.

n = number of discharge concentrations used to calculate an average over a specified monitoring period (n=1 for daily concentrations and 30 for 30-day averages).

exp = base e (or approximately 2.718) raised to the power shown between the parentheses in the P95 equation.

Z_p = Z value corresponding to the upper p^{th} percentile of the standard normal distribution.

$p = (0.95\text{-}d^n)/(1\text{-}d^n)$.

$$mu_{dn} = mu_d + \frac{(sigma_d)^2 - (sigma_{dn})^2}{2} + \ln\frac{(1-d)}{(1-d^n)} =$$ estimated log mean of n-day average discharge concentrations greater than the limit of detection. (Note: $mu_{dn} = mu_d$ if n = 1).

$$(sigma_{dn})^2 = \ln\left[(1-d^n)\left(\frac{1+\left(\frac{s}{m}\right)^2}{n(1-d)} + \frac{n-1}{n}\right)\right] =$$ estimated log variance of n-day average discharge concentrations greater than the limit of detection. (Note: $(sigma_{dn})^2 = (sigma_d)^2$ if n = 1).

mu_d = 1n m - 0.5 $(sigma_d)^2$ = estimated log mean of discharge concentrations greater than the limit of detection.

$(sigma_d)^2$ = 1n $[1 + (s/m)^2]$ = estimated log from variance of discharge concentrations greater than the limit of detection.

ln = natural logarithm.

m = mean of discharge concentrations greater than the limit of detection.

s = standard deviation of discharge concentrations greater than the limit of detection.

Reasonable potential for the discharge of a toxic substance to cause or contribute to an excursion above any water quality value will be considered to exist if the average or maximum PEQ exceeds any of the chronic or acute PELs, respectively, developed in accordance with subrule (2) of this rule.

(b) If sufficient data are not available to use the process described in subdivision (a) of this subrule, then the PEQ shall be determined by identifying the total number of representative effluent samples, both detectable and nondetectable, and multiplying the maximum effluent concentration by the appropriate factor from table 4 developed by assuming a 0.6 coefficient of variation. Reasonable potential for the discharge of a toxic substance to cause or contribute to an excursion above any water quality value will be considered to exist if the PEQ exceeds any of the PELs developed in accordance with subrule (2) of this rule. For purposes of this subdivision, the department shall consider other scientifically defensible approaches on a case-by-case basis which are consistent with procedure 5.B.2 of Appendix F, 40 C.F.R. Part 132 (1995), which is adopted by reference in R 323.1221, for use in determining reasonable potential. If requested by the permittee, one such approach that is acceptable to the department is the prediction level concept - specified in Gibbons, 1994, Statistical Methods for Groundwater Monitoring - Wiley, New York where representative effluent data appropriate for use with this method is provided. If the prediction level approach is proposed for use with data sets containing values both

above and below the detection level, then a process to address the less than detection values, that is acceptable to the department, shall be provided by the permittee.

Table 4. Reasonable potential multiplying factors:
95% confidence level and 95% probability basis.

	Number of Samples									
	1	2	3	4	5	6	7	8	9	
Multiplying Factor	6.2	3.8	3.0	2.6	2.3	2.1	2.0	1.9	1.8	
	10	11	12	13	14	15	16	17	18	19
	1.7	1.7	1.6	1.6	1.5	1.5	1.5	1.4	1.4	1.4
	20	30	40	50	60	70	80	90	100	
	1.4	1.2	1.1	1.0	1.0	0.9	0.9	0.9	0.9	

(4) If the analysis in subrule (3) of this rule demonstrates that the toxic substance concentration has a reasonable potential to cause or contribute to an excursion above any water quality value, then a WQBEL or WQBELs shall be established in the permit. For the purpose of an NPDES permit, a chronic or acute WLA based on a water quality value shall be equal to a WQBEL and shall be expressed using the following permit averaging periods:

(a) Chronic WLAs for the protection of aquatic life, human health, and wildlife shall be expressed as monthly average WQBELs.

(b) Acute WLAs for the protection of aquatic life shall be expressed as daily maximum WQBELs.

Monitoring frequency to evaluate compliance with WQBELs shall be established by the department on a case-by-case basis.

(5) Monthly average WQBELs shall be expressed as both a concentration value and a corresponding mass load. The mass and concentration limits shall be calculated using the same facility design flows. Appropriate adjustments may be made to address facilities that receive wet-weather flows. Daily maximum WQBELs shall be expressed as both a concentration value and a corresponding mass load for those substances identified in R 323.1205(u)(ii) and other toxic substances as appropriate.

(6) For each toxic substance which a permittee reports as known or believed to be present in its discharge, and for which data sufficient to calculate tier II values for noncancer human health and aquatic life do not exist, all of the following provisions apply:

(a) The department shall use all available, relevant toxicity information to estimate ambient screening values for the toxic substance that will protect humans from noncancer health effects and aquatic life from acute and chronic effects.

(b) Using the provisions specified in R 323.1209, the department shall develop PELs based on the estimated ambient screening value and compare the PELs with the PEQ. If the PEQ exceeds any of the PELs, then the department shall generate, or require the permittee to generate, the minimum data necessary to derive tier II values for noncancer human health and aquatic life.

(c) The data generated in accordance with subdivision (b) of this subrule shall be used to calculate water quality values. The values shall be used in calculating the PELs pursuant to subrule (2) of this rule for the purpose of determining whether a WQBEL must be included in the permit. If the department finds that the PEQ exceeds the PEL, then a WQBEL for the toxic substance shall be established in the permit consistent with R 323.1211.

(7) All of the following conditions apply when considering intake toxic substances in establishing limitations in NPDES permits:

(a) The department may determine that there is no reasonable potential for the discharge of an identified intake toxic substance to cause or contribute to an excursion above any water quality value if a discharger demonstrates, to the satisfaction of the department, or the department determines, all of the following:

(i) The facility withdraws 100% of the intake water containing the toxic substance from the same body of water into which the discharge is made.

(ii) The facility does not contribute a measurable increased mass of the identified intake toxic substance to its wastewater.

(iii) The facility does not alter the identified intake toxic substance chemically or physically in a manner that would cause adverse water quality impacts to occur that would not occur if the toxic substances were left in-stream.

(iv) The facility does not increase the identified intake toxic substance concentration, as defined by the department, at the edge of the mixing zone or if a mixing zone is not allowed at the point of discharge, as compared to the toxic substance concentration in the intake water, unless the increased concentration does not cause or contribute to an excursion above an applicable water quality standard.

(v) The timing and location of the discharge would not cause adverse water quality impacts to occur that would not occur if the identified intake toxic substance were left in-stream.

(b) If there is a finding under subdivision (a) of this subrule that a toxic substance in the discharge does not have the reasonable potential to cause or contribute to an excursion above a water quality value, then a WQBEL is unnecessary and the permit may require monitoring necessary to demonstrate that the conditions in subdivision (a) of this subrule are maintained during the permit term. Unique situations for commingled waste streams at facilities will be addressed on a case-by-case basis.

(c) Absent a finding under subdivision (a) of this subrule, the department shall use the procedures described in subrules (2) through (5) of this rule to determine whether a discharge has the reasonable potential to cause or contribute to an excursion above any water quality value.

(d) If the background receiving water concentration of the intake toxic substance of concern exceeds the most stringent applicable water quality value for that toxic substance, then all of the following provisions apply:

(i) If the facility meets the conditions in subdivision (a)(i) and (iii) to (v) of this subrule, then a no net addition limit may be established for the toxic substance of concern at a mass and concentration that are no greater than the mass and concentration of the toxic substance identified in the facility's intake water. In determining whether there has been an addition, recognized statistical concepts shall be considered. For toxic substances contained in the intake water provided by a water system, the concentration of the intake toxic substance shall be determined at the point where the raw water is removed from the same body of water, except that it shall be the point where the water enters the water supplier's distribution system where the water treatment system removes any of the identified toxic substances from the raw water supply. Mass shall be determined by multiplying the concentration of the toxic substance by the volume of the facility's intake flow received from the water system. Following establishment of a TMDL developed under R 323.1207 for the water body segment encompassing the facility, any use of no net addition limits shall be consistent with the TMDL.

Note: The Water Quality Guidance for the Great Lakes System, 40 C.F.R. Part 132 (1995), indicates that a permit may not authorize no net addition limits that are effective after March 23, 2007. The preamble to 40 C.F.R. Part 132 indicates that the environmental protection agency (EPA) will revisit this requirement by March 23, 2002, to consider possible extensions. After the redetermination by EPA, the department will consider modifying these rules to incorporate a phaseout date for no net addition limits, if still necessary.

(ii) If the intake toxic substance in a facility's discharge originates from a water that is not the same body of water as the receiving water, then WQBELs shall be established based upon the most stringent water quality value for that toxic substance.

(iii) If a facility discharges an intake toxic substance that originates in part from the same body of water, and in part from a different body of water, then the department may apply the conditions of paragraphs (i) and (ii) of this subdivision to derive an effluent limitation reflecting the flow-weighted average of each source of the toxic substance.

R 323.1213 WQBELs less than quantification level.

Rule 1213. (1) If a water quality-based effluent limit (WQBEL) for a toxic substance is calculated to be less than the quantification level, then all of the following provisions apply:

(a) The department shall designate, in the national pollutant discharge elimination system (NPDES) permit, the WQBEL as calculated.

(b) The permit shall state, for the purpose of compliance assessment, the analytical method to be used to monitor the amount of toxic substance in the effluent and the quantification level. The analytical method specified shall be the most sensitive, applicable, analytical method specified in or approved under the pollutant testing regulations set forth in 40 C.F.R. §136 (2000), which are adopted by reference in R 323.1221, or other appropriate method that provides confirmation and verification acceptable to the department if one is not available under 40 C.F.R. §136 (2000). The permit shall also state that if an effluent sample is less than the quantification level, then the permittee shall be considered in compliance for the period that the sample represents if the pollutant minimization program (PMP) described in subdivision (d) of this subrule is being fully performed.

(c) The quantification level shall be the minimum level (ML) specified in, or approved under, 40 C.F.R. §136 (2000), which are adopted by reference in R 323.1221, for the method for that toxic substance. If such ML does not exist, or if the method is not specified or approved under 40 C.F.R. §136 (2000), then the quantification level shall be the lowest quantifiable level practicable as established by procedures approved by the department. When establishing a quantification level, the department shall consider the achievability of the value by competent commercial laboratories. The permittee shall be given the opportunity to demonstrate that a higher quantification level is appropriate because of sample matrix interference.

(d) The permit shall contain a special condition requiring the permittee to develop and conduct a PMP for each toxic substance with a WQBEL below the quantification level, unless the permittee can demonstrate to the department that an alternate technique is available and will be used to assess compliance with the WQBEL. The goal of the PMP shall be to maintain the effluent concentration of the toxic substance at or below the WQBEL. The department shall consider cost-effectiveness during the development and implementation of a PMP. The permit shall require the submittal of a PMP by the permittee that describes the control strategy designed to proceed toward achievement of the goal and shall include all of the following:

(i) An annual review and semiannual monitoring of potential sources of the toxic substance.
(ii) Quarterly monitoring for the toxic substance in the influent to the wastewater treatment system.
(iii) A commitment by the permittee that reasonable cost-effective control measures will be implemented when sources of the toxic substance are discovered. Factors to be considered shall include all of the following:
(A) Significance of sources.
(B) Economic considerations.
(C) Technical and treatability considerations.
(iv) An annual status report. The report shall be sent to the department and shall include all of the following:
(A) All minimization program monitoring results for the previous year.
(B) A list of potential sources of the toxic substance.
(C) A summary of all actions taken to reduce or eliminate the identified sources of the toxic substance.
The requirements of paragraphs (i) to (iv) of this subdivision may be modified by the department on a case-by-case basis.
(e) The permit may contain a special condition requiring fish tissue monitoring or other biouptake sampling, or both, or facility sludge monitoring to assess the progress of the PMP.
(f) The permit shall contain a reopener clause indicating that any information generated as a result of the PMP described in subdivision (d) of this subrule may be used to support a request for subsequent permit modification, including revision or removal of the PMP requirement.
(g) The quantification level specified in a NPDES permit pursuant to this rule shall remain in effect until the permit is modified or reissued. If the quantification level is reduced through a permit modification or reissuance, then the permittee may be eligible for a compliance schedule under R 323.1217 and a variance under R 323.1103.

R 323.1215 Special conditions for bioaccumulative chemicals of concern (BCCs).
Rule 1215. Conditions shall be established in national pollutant discharge elimination system (NPDES) permits that require the permittee to monitor for BCCs expected to be present in the discharge as a result of operations at the facility. The permit shall also contain a provision, consistent with R 323.1098, that prohibits the permittee from undertaking any action that would result in a lowering of water quality from an increased loading of a BCC unless an increased use request, including an antidegradation demonstration, has been submitted and approved by the department. The permit shall also require that the department be notified within 10 days of the permittee becoming aware that a lowering of water quality from an increased loading of a BCC has occurred.

R 323.1217 Compliance schedules.
Rule 1217. (1) If a permit issued to a new discharger contains a water quality-based effluent limitation (WQBEL) for a toxic substance, then the permittee shall comply with the limitation upon commencement of the discharge. Compliance schedules may be granted for new or more stringent WQBELs contained in a modification to the permit or subsequently issued permits.

(2) Any existing permit that is reissued or modified to contain a new or more restrictive WQBEL for a toxic substance or a lower quantification level established under R 323.1213 may allow a reasonable period of time, up to 5 years from the date of permit issuance or modification, for the permittee to comply with the new or more restrictive WQBEL or lower quantification level. When a compliance schedule goes beyond the term of a permit, an interim permit limit shall become effective on or before the permit expiration date.

(3) If a permit establishes a schedule of compliance under subrule (2) of this rule that exceeds 1 year from the date of permit issuance or modification, then the schedule shall set forth interim requirements and dates for achievement of the requirements, as appropriate.

(4) If a WQBEL for a toxic substance based upon a tier II value derived under R 323.1057 is included in a reissued or modified permit for an existing discharger, then the permit shall provide a reasonable period of time, up to 2 years, in which to provide additional data necessary to develop a tier I value or to modify the tier II value. Information submitted to modify the tier II value may also include site-specific data and any such site-specific modifications shall be calculated according to the site-specific modification requirements of R 323.1057. The permit shall require compliance with the tier II limitation within a reasonable period of time, which shall not be more than 5 years after permit issuance or modification, and shall contain a reopener clause.

(5) The reopener clause specified in subrule (4) of this rule shall authorize permit modifications if additional data have been provided by the permittee or a third party during the time allowed to provide the data and if the permittee or a third party demonstrates that a revised WQBEL for a toxic substance is appropriate. The revised WQBEL shall be incorporated through a permit modification and a reasonable time period, up to 5 years from the date of modification, shall be allowed for compliance. If incorporated before the compliance date of the original tier II limitation, any such revised WQBEL shall not be considered less stringent for purposes of the antibacksliding provisions of section 402(o) of the clean water act (CWA).

(6) If the specified studies have been completed and do not demonstrate that a revised WQBEL is appropriate, then the department shall provide a reasonable additional period of time, not to exceed 5 years, to achieve compliance with the original WQBEL.

(7) If future studies other than those conducted under subrule (4) of this rule result in a water quality value being changed to a less stringent value, after the effective date of a WQBEL for that substance, the existing WQBEL may be revised to be less stringent if 1 of the following provisions is met:

(a) The less stringent WQBEL complies with sections 402(o)(2) and (3) of the clean water act.

(b) The less stringent WQBEL complies with water quality standards or is consistent with a department-approved total maximum daily load in nonattainment waters.

(c) The less stringent WQBEL complies with R 323.1098 in attained waters.

R 323.1219 Whole effluent toxicity.

Rule 1219**.** (1) For the purpose of evaluating the need for whole effluent toxicity (WET) limits or conditions in point source discharges, the narrative WET standard specified in R 323.1057(6) shall be interpreted as follows:

(a) An effluent shall not exceed 1.0 acute toxic unit (TU_a), unless a higher level is acceptable consistent with R 323.1082(1).

(b) An effluent shall not cause or contribute to an exceedance of 1.0 chronic toxic unit (TU_c) in the surface waters of the state outside of any department-approved mixing zone.

(2) If the department determines under subrule (4) of this rule that the WET of an effluent is or may be discharged at a level that will cause or contribute to an excursion above the narrative WET standard specified in R 323.1057(6), then the department shall implement all of the following provisions:

(a) Establish a WET limitation or limitations consistent with subrule (5) of this rule, except as provided in subdivision (d) of this subrule, to assure both of the following:

(i) Attainment of the acute WET provisions of subrule (1)(a) of this rule.

(ii) Attainment of the chronic WET provisions of subrule (1)(b) of this rule.

(b) Specify, in the national pollutant discharge elimination system (NPDES) permit for existing dischargers, on a case-by-case basis, a requirement to perform a toxicity reduction evaluation if representative toxicity data indicate persistent exceedance of the WET limitation.

(c) Allow, with respect to any WET limitation established under subdivision (a) of this subrule, an appropriate schedule of compliance consistent with R 323.1217.

(d) Decide, on a case-by-case basis, if a WET limitation is not necessary if the department determines that chemical-specific effluent limits are sufficient to ensure compliance with any of the conditions specified in subrule (1) of this rule.

(3) If the department has insufficient information to determine, under subrule (4) of this rule, whether the WET of an effluent will be discharged at a level that will cause or contribute to an excursion above the narrative WET standard specified in R 323.1057(6), then both of the following may be included in the permit:

(a) WET testing requirements to generate the data needed to adequately characterize the toxicity of the effluent to aquatic life and any toxicity reduction requirements needed to meet the requirement of subrule (1) of this rule.

(b) A permit reopener clause to establish WET limits if any toxicity testing data required under subdivision (a) of this subrule indicate that the WET of an effluent is discharged at levels that will cause or contribute to an excursion above any of the conditions specified in subrule (1) of this rule.

(4) The department shall take into account the factors described in the permit condition regulations set forth in 40 C.F.R. §122.44(d)(1)(ii), which are adopted by reference in R 323.1221, and use representative data to evaluate the WET of an effluent. All of the following provisions for evaluating the reasonable potential of an effluent to exceed the requirements of R 323.1057(6) shall be applied:

(a) The toxicity of the effluent shall be characterized consistent with all of the following provisions:

(i) The results of acute toxicity tests collected within the same day for each species shall be averaged to represent 1 daily value. The maximum of all representative daily values for the most sensitive species tested shall be used for acute reasonable potential determinations.

(ii) The results of chronic toxicity tests collected within the same calendar month for each species shall be averaged to represent 1 monthly value. The maximum of all representative monthly values for the most sensitive species tested shall be used for chronic reasonable potential determinations.

(iii) If data exist for either acute WET or chronic WET, but not for both endpoints, then toxicity values for missing endpoints may be estimated using a default acute-chronic ratio (ACR) of 10.

(iv) For purposes of deriving the daily acute and monthly chronic values in paragraphs (i) and (ii) of this subdivision, toxicity tests that do not yield quantifiable results (e.g. > = 1.0 TU_A or TU_C) shall be assigned a value of zero.

(b) The WET of an effluent is or may be discharged at a level that will cause or contribute to an excursion above the acute narrative standard specified in R 323.1057(6) when:

(TU_A effluent)(MF) > acute PEL

Where:

"TU_A effluent" is the maximum of the daily values determined pursuant to subdivision (a)(i) of this subrule.

"MF" is the multiplying factor determined using the acute toxicity test results for the most sensitive species as specified in subdivision (a)(i) of this subrule. If none of the acute toxicity tests yield quantifiable results, then the MF shall be 1. Where there is at least 1 but fewer than 10 acute toxicity tests with quantifiable results, the multiplying factor taken from table 5 shall be based on a coefficient of variation (CV) of 0.6. Where there are 10 or more acute toxicity tests with quantifiable results, the multiplying factor taken from table 5 shall be based on a CV calculated as the standard deviation of the acute toxicity test results divided by the arithmetic mean of those test results. For the purpose of selecting a MF from table 5, “n” shall equal the total number of quantifiable and nonquantifiable acute toxicity test results. For the purpose of developing a calculated CV, acute toxicity tests that do not yield quantifiable results shall equal 1.0 TUa. If the calculated CV is $\leq$0.05, then the MF shall be 1.

"Acute PEL" is the preliminary acute wet limitation derived for the facility under subrule (5)(c) of this rule.

(c) The WET of an effluent is or may be discharged at a level that will cause or contribute to an excursion above the chronic narrative standard specified in R 323.1057(6) when:

(TU_C effluent)(MF) > chronic PEL

Where:

"TU_C effluent" is the maximum of the monthly values determined pursuant to subdivision (a)(ii) of this subrule.

"MF" is the multiplying factor determined using the chronic toxicity test results for the most sensitive species as specified in subdivision (a)(ii) of this subrule. If none of the chronic toxicity tests yield quantifiable results, then the MF shall be 1. Where there is at least 1 but fewer than 10 chronic toxicity tests with quantifiable results, the multiplying factor taken from table 5 shall be based on a coefficient of variation (CV) of 0.6. Where there are 10 or more chronic toxicity tests with quantifiable results, the multiplying factor taken from table 5 shall be based on a CV calculated as the standard deviation of the chronic toxicity test results divided by the arithmetic mean of those test results. For the purpose of selecting a MF from table 5, “n” shall equal the total number of quantifiable and nonquantifiable chronic toxicity test results. For the purpose of developing a calculated CV, chronic toxicity tests that do not yield quantifiable results shall equal 1.0 TUc. If the calculated CV is $\leq$0.05, then the MF shall be 1.

"Chronic PEL" is the preliminary chronic wet limitation derived for the facility under subrule (5)(a) or (b) of this rule.

(d) The WET of a new discharge shall be evaluated on a case-by-case basis considering all information available on the potential toxicity of the proposed discharge.

(5) WET limitations shall be developed using all of the following provisions:

(a) Chronic WET limitations for discharges to lotic waters shall be developed as follows:

$$\text{WET limit} = \frac{W\ (Qe + Qr)}{Qe}$$

Where:

W = the condition specified in subrule (1)(b) of this rule.

Qe = effluent design flow, which is the annual average design flow for municipalities and maximum authorized flow for other facilities, unless it can be demonstrated to the department that an alternate design flow is appropriate.

Qr = flow of the receiving water allocated for mixing under R 323.1082. If a discharger has an intake upstream of the point of discharge, then Qr shall reflect the reduction in design flow attributable to the intake.

(b) Chronic WET limitations for discharges to the Great Lakes and inland lakes shall be developed as follows:

$$\text{WET limit} = (W)(Q + 1)$$

Where:

W = the condition specified in subrule (1)(b) of this rule.

Q = the number of parts receiving water allowed for mixing under R 323.1082(5).

(c) Acute WET limitations shall not exceed the condition specified in subrule (1)(a) of this rule.

(d) WET limitations for facilities with overlapping mixing zones shall be evaluated on a case-by-case basis.

(e) For purposes of an NPDES permit, WET limitations shall be expressed as follows:

(i) An acute WET limitation shall be applied as a daily maximum and expressed in TU_a.

(ii) A chronic WET limitation shall be applied as a monthly average and expressed in TU_c.

(6) Monitoring frequency to evaluate compliance with WET limitations shall be established by the department on a case-by-case basis. Concerns with the effects of temperature and pH on ammonia toxicity under laboratory conditions during cold weather months will be considered in establishing monitoring frequency.

(7) All WET tests performed to implement or ascertain compliance with this rule shall be consistent with methods established in 40 C.F.R. Part 136 (2000), which are adopted by reference in R 323.1221. Methods approved by the department shall be used when appropriate WET methods are not specified in 40 C.F.R. Part 136 (2000).

Table 5. Reasonable potential multiplying factors: 95% confidence level and 95% probability basis.

n	Coefficient of Variation																			
	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
1	-	-	-	-	-	6.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	3.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	2.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	2.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	2.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	1.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	1.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	1.1	1.2	1.3	1.5	1.6	1.7	1.9	2.0	2.2	2.3	2.4	2.6	2.7	2.8	3.0	3.1	3.2	3.3	3.4	3.6
11	1.1	1.2	1.3	1.4	1.6	1.7	1.8	1.9	2.1	2.2	2.3	2.4	2.5	2.7	2.8	2.9	3.0	3.1	3.2	3.3
12	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.0
13	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.5	2.6	2.7	2.8	2.9
14	1.1	1.2	1.3	1.4	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.3	2.4	2.5	2.6	2.6	2.7
15	1.1	1.2	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.8	1.9	2.0	2.1	2.2	2.2	2.3	2.4	2.4	2.5	2.5
16	1.1	1.1	1.2	1.3	1.4	1.5	1.6	1.6	1.7	1.8	1.9	1.9	2.0	2.1	2.1	2.2	2.3	2.3	2.4	2.4
17	1.1	1.1	1.2	1.3	1.4	1.4	1.5	1.6	1.7	1.7	1.8	1.9	1.9	2.0	2.0	2.1	2.2	2.2	2.3	2.3
18	1.1	1.1	1.2	1.3	1.3	1.4	1.5	1.6	1.6	1.7	1.7	1.8	1.9	1.9	2.0	2.0	2.1	2.1	2.2	2.2
19	1.1	1.1	1.2	1.3	1.3	1.4	1.5	1.5	1.6	1.6	1.7	1.8	1.8	1.9	1.9	2.0	2.0	2.0	2.1	2.1
20	1.1	1.1	1.2	1.2	1.3	1.4	1.4	1.5	1.5	1.6	1.6	1.7	1.7	1.8	1.8	1.9	1.9	2.0	2.0	2.0
30	1.0	1.1	1.1	1.1	1.2	1.2	1.2	1.3	1.3	1.3	1.3	1.4	1.4	1.4	1.4	1.5	1.5	1.5	1.5	1.5
40	1.0	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.3	1.3
50	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
60	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
70	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
80	1.0	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8
90	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
100	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.7

R 323.1221 Adoption of standards by reference.

Rule 1221. All of the following standards are adopted by reference in these rules, are available for inspection at the Lansing Office of the Department of Environmental Quality, and may be obtained as indicated:

(a) "EPA Priority Pollutants and Hazardous Substances," 40 C.F.R. §122.21, Appendix D (2000). Copies may be obtained from the Department of Environmental Quality, 525 West Allegan Street, Lansing, Michigan 48933, at a cost as of the time of adoption of these rules of 5 cents per page and a labor rate of $20.18 per hour, or from the Superintendent of Documents, Government Printing Office, Washington, DC 20402, at a cost as of the time of adoption of these rules of $43.00, or via the internet at *(The link provided was broken and has been removed.)*

(b) "Table 6. Pollutants of Initial Focus in the Great Lakes Water Quality Initiative," 40 C.F.R. §132 (1995). Copies may be obtained from the Department of Environmental Quality, 525 West Allegan Street, Lansing, Michigan 48933, at a cost as of the time of adoption of these rules of 5 cents per page and a labor rate of $20.18 per hour, or from the Superintendent of Documents, Government Printing Office, Washington, DC 20402, at a cost as of the time of adoption of these rules of $43.00, or via the internet at *(The link provided was broken and has been removed.)*

(c) "Total maximum daily loads (TMDL) and individual water quality-based effluent limitations," 40 C.F.R §130.7 (2000). Copies may be obtained from the Department of Environmental Quality, 525 West Allegan Street, Lansing, Michigan 48933, at a cost as of

the time of adoption of these rules of 5 cents per page and a labor rate of $19.78 per hour, or from the Superintendent of Documents, Government Printing Office, Washington, DC 20402, at a cost as of the time of adoption of these rules of $43.00, or via the internet at *(The link provided was broken and has been removed.)*

(d) "Appendix F to Part 132 - Great Lakes Water Quality Initiative Implementation Procedures, Procedure 5.B.2," 40 C.F.R. §132 (1995). Copies may be obtained from the Department of Environmental Quality, 525 West Allegan Street, Lansing, Michigan 48933, at a cost as of the time of adoption of these rules of 5 cents per page and a labor rate of $20.18 per hour, or from the Superintendent of Documents, Government Printing Office, Washington, DC 20402, at a cost as of the time of adoption of these rules of $43.00, or via the internet at *(The link provided was broken and has been removed.)*

(e) "Guidelines Establishing Test Procedures for Analysis of Pollutants," 40 C.F.R. §136 et seq. (2000). Copies may be obtained from the Department of Environmental Quality, 525 West Allegan Street, Lansing, Michigan 48933, at a cost as of the time of adoption of these rules of 5 cents per page and a labor rate of $20.18 per hour, or from the Superintendent of Documents, Government Printing Office, Washington, DC 20402, at a cost as of the time of adoption of these rules of $61.00, or via the internet at *(The link provided was broken and has been removed.)*

(f) "Establishing limitations, standards, and other permit conditions," 40 C.F.R §122.44(d)(1)(ii) (2000). Copies may be obtained from the Department of Environmental Quality, 525 West Allegan Street, Lansing, Michigan 48933, at a cost as of the time of adoption of these rules of 5 cents per page and a labor rate of $20.18 per hour, or from the Superintendent of Documents, Government Printing Office, Washington, DC 20402, at a cost as of the time of adoption of these rules of $43.00, or via the internet at *(The link provided was broken and has been removed.)*