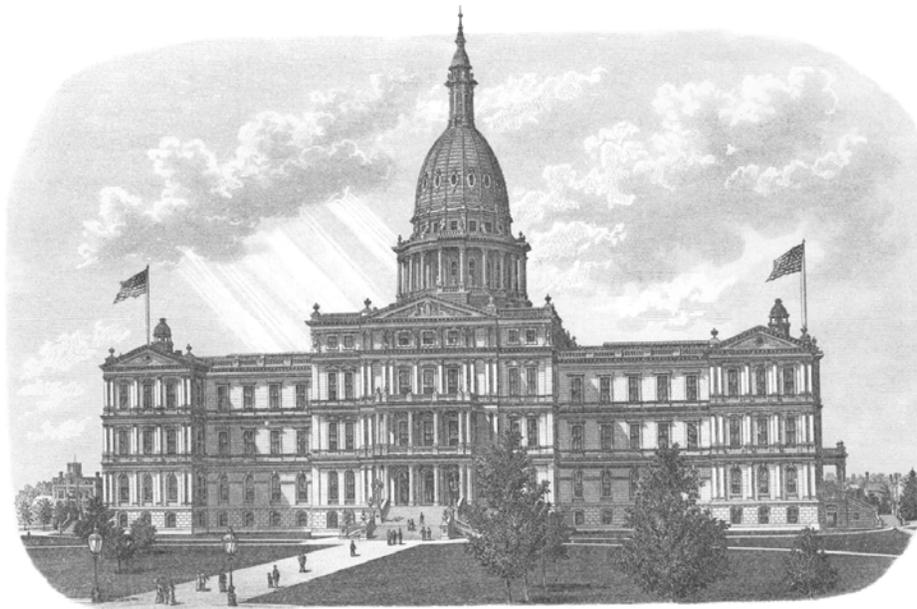


# Michigan Register

Issue No. 6– 2016 (Published April 15, 2016)



# GRAPHIC IMAGES IN THE MICHIGAN REGISTER

## COVER DRAWING

### *Michigan State Capitol:*

This image, with flags flying to indicate that both chambers of the legislature are in session, may have originated as an etching based on a drawing or a photograph. The artist is unknown. The drawing predates the placement of the statue of Austin T. Blair on the capitol grounds in 1898.

(Michigan State Archives)

## PAGE GRAPHICS

### *Capitol Dome:*

The architectural rendering of the Michigan State Capitol's dome is the work of Elijah E. Myers, the building's renowned architect. Myers inked the rendering on linen in late 1871 or early 1872. Myers' fine draftsmanship, the hallmark of his work, is clearly evident.

Because of their size, few architectural renderings of the 19<sup>th</sup> century have survived. Michigan is fortunate that many of Myers' designs for the Capitol were found in the building's attic in the 1950's. As part of the state's 1987 sesquicentennial celebration, they were conserved and deposited in the Michigan State Archives.

(Michigan State Archives)

### *East Elevation of the Michigan State Capitol:*

When Myers' drawings were discovered in the 1950's, this view of the Capitol – the one most familiar to Michigan citizens – was missing. During the building's recent restoration (1989-1992), this drawing was commissioned to recreate the architect's original rendering of the east (front) elevation.

(Michigan Capitol Committee)

# Michigan Register

Published pursuant to § 24.208 of  
The Michigan Compiled Laws



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(This issue, published April 15, 2016, contains  
documents filed from March 15, 2016 to April 1, 2016)

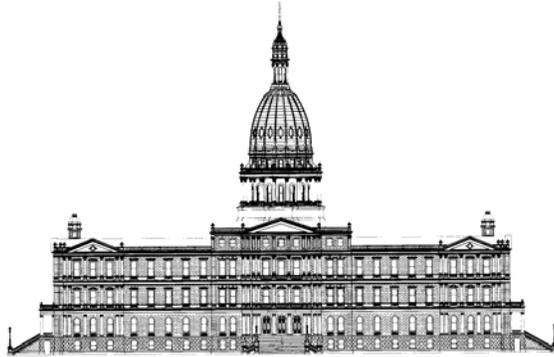
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**Mike Zimmer**, Director, Licensing and Regulatory Affairs; **Deidre O’Berry**, Administrative Rules Specialist for Operations and Publications.

**Rick Snyder, Governor**



**Brian Calley, Lieutenant Governor**

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## PREFACE

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### PUBLICATION AND CONTENTS OF THE MICHIGAN REGISTER

The Office of Regulatory Reform publishes the *Michigan Register*.

While several statutory provisions address the publication and contents of the *Michigan Register*, two are of particular importance.

**24.208 Michigan register; publication; cumulative index; contents; public subscription; fee; synopsis of proposed rule or guideline; transmitting copies to office of regulatory reform.**

Sec. 8.

(1) The office of regulatory reform shall publish the Michigan register at least once each month. The Michigan register shall contain all of the following:

- (a) Executive orders and executive reorganization orders.
- (b) On a cumulative basis, the numbers and subject matter of the enrolled senate and house bills signed into law by the governor during the calendar year and the corresponding public act numbers.
- (c) On a cumulative basis, the numbers and subject matter of the enrolled senate and house bills vetoed by the governor during the calendar year.
- (d) Proposed administrative rules.
- (e) Notices of public hearings on proposed administrative rules.
- (f) Administrative rules filed with the secretary of state.
- (g) Emergency rules filed with the secretary of state.
- (h) Notice of proposed and adopted agency guidelines.
- (i) Other official information considered necessary or appropriate by the office of regulatory reform.
- (j) Attorney general opinions.
- (k) All of the items listed in section 7(m) after final approval by the certificate of need commission under section 22215 of the public health code, 1978 PA 368, MCL 333.22215.

(2) The office of regulatory reform shall publish a cumulative index for the Michigan register.

(3) The Michigan register shall be available for public subscription at a fee reasonably calculated to cover publication and distribution costs.

(4) If publication of an agency's proposed rule or guideline or an item described in subsection (1)(k) would be unreasonably expensive or lengthy, the office of regulatory reform may publish a brief synopsis of the proposed rule or guideline or item described in subsection (1)(k), including information on how to obtain a complete copy of the proposed rule or guideline or item described in subsection (1)(k) from the agency at no cost.

(5) An agency shall electronically transmit a copy of the proposed rules and notice of public hearing to the office of regulatory reform for publication in the Michigan register.

**4.1203 Michigan register fund; creation; administration; expenditures; disposition of money received from sale of Michigan register and amounts paid by state agencies; use of fund; price of Michigan register; availability of text on internet; copyright or other proprietary interest; fee prohibited; definition.**

Sec. 203.

- (1) The Michigan register fund is created in the state treasury and shall be administered by the office of regulatory reform. The fund shall be expended only as provided in this section.
- (2) The money received from the sale of the Michigan register, along with those amounts paid by state agencies pursuant to section 57 of the administrative procedures act of 1969, 1969 PA 306, MCL 24.257, shall be deposited with the state treasurer and credited to the Michigan register fund.
- (3) The Michigan register fund shall be used to pay the costs of preparing, printing, and distributing the Michigan register.
- (4) The department of management and budget shall sell copies of the Michigan register at a price determined by the office of regulatory reform not to exceed the cost of preparation, printing, and distribution.
- (5) Notwithstanding section 204, beginning January 1, 2001, the office of regulatory reform shall make the text of the Michigan register available to the public on the internet.
- (6) The information described in subsection (5) that is maintained by the office of regulatory reform shall be made available in the shortest feasible time after the information is available. The information described in subsection (5) that is not maintained by the office of regulatory reform shall be made available in the shortest feasible time after it is made available to the office of regulatory reform.
- (7) Subsection (5) does not alter or relinquish any copyright or other proprietary interest or entitlement of this state relating to any of the information made available under subsection (5).
- (8) The office of regulatory reform shall not charge a fee for providing the Michigan register on the internet as provided in subsection (5).
- (9) As used in this section, "Michigan register" means that term as defined in section 5 of the administrative procedures act of 1969, 1969 PA 306, MCL 24.205.

**CITATION TO THE MICHIGAN REGISTER**

The *Michigan Register* is cited by year and issue number. For example, 2001 MR 1 refers to the year of issue (2001) and the issue number (1).

**CLOSING DATES AND PUBLICATION SCHEDULE**

The deadlines for submitting documents to the Office of Regulatory Reinvention for publication in the *Michigan Register* are the first and fifteenth days of each calendar month, unless the submission day falls on a Saturday, Sunday, or legal holiday, in which event the deadline is extended to include the next day which is not a Saturday, Sunday, or legal holiday. Documents filed or received after 5:00 p.m. on the closing date of a filing period will appear in the succeeding issue of the *Michigan Register*.

The Office of Regulatory Reinvention is not responsible for the editing and proofreading of documents submitted for publication.

Documents submitted for publication should be delivered or mailed in an electronic format to the following address: MICHIGAN REGISTER, Office of Regulatory Reinvention, Ottawa Building – Second Floor, 611 W. Ottawa Street, Lansing, MI 48909.

### **RELATIONSHIP TO THE MICHIGAN ADMINISTRATIVE CODE**

The *Michigan Administrative Code* (1979 edition), which contains all permanent administrative rules in effect as of December 1979, was, during the period 1980-83, updated each calendar quarter with the publication of a paperback supplement. An annual supplement contained those permanent rules, which had appeared in the 4 quarterly supplements covering that year.

Quarterly supplements to the Code were discontinued in January 1984, and replaced by the monthly publication of permanent rules and emergency rules in the *Michigan Register*. Annual supplements have included the full text of those permanent rules that appear in the twelve monthly issues of the *Register* during a given calendar year. Emergency rules published in an issue of the *Register* are noted in the annual supplement to the Code.

### **SUBSCRIPTIONS AND DISTRIBUTION**

The *Michigan Register*, a publication of the State of Michigan, is available for public subscription at a cost of \$400.00 per year. Submit subscription requests to: Office of Regulatory Reinvention, Ottawa Building – Second Floor, 611 W. Ottawa Street, Lansing, MI 48909. Checks Payable: State of Michigan. Any questions should be directed to the Office of Regulatory Reinvention (517) 335-8658.

### **INTERNET ACCESS**

The *Michigan Register* can be viewed free of charge on the Internet web site of the Office of Regulatory Reinvention: [www.michigan.gov/orr](http://www.michigan.gov/orr).

Issue 2000-3 and all subsequent editions of the *Michigan Register* can be viewed on the Office of Regulatory Reinvention Internet web site. The electronic version of the *Register* can be navigated using the blue highlighted links found in the Contents section. Clicking on a highlighted title will take the reader to related text, clicking on a highlighted header above the text will return the reader to the Contents section.

Mike Zimmer, Director  
Licensing and Regulatory Affairs

## 2016 PUBLICATION SCHEDULE

Issue No.	Closing Date for Filing or Submission Of Documents (5 p.m.)	Publication Date
1	January 15, 2016	February 1, 2016
2	February 1, 2016	February 15, 2016
3	February 15, 2016	March 1, 2016
4	March 1, 2016	March 15, 2016
5	March 15, 2016	April 1, 2016
6	April 1, 2016	April 15, 2016
7	April 15, 2016	May 1, 2016
8	May 1, 2016	May 15, 2016
9	May 15, 2016	June 1, 2016
10	June 1, 2016	June 15, 2016
11	June 15, 2016	July 1, 2016
12	July 1, 2016	July 15, 2016
13	July 15, 2016	August 1, 2016
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15	August 15, 2016	September 1, 2016
16	September 1, 2016	September 15, 2016
17	September 15, 2016	October 1, 2016
18	October 1, 2016	October 15, 2016
19	October 15, 2016	November 1, 2016
20	November 1, 2016	November 15, 2016
21	November 15, 2016	December 1, 2016
22	December 1, 2016	December 15, 2016
23	December 15, 2016	January 1, 2017
24	January 1, 2017	January 15, 2017

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**ADMINISTRATIVE RULES  
FILED WITH THE SECRETARY OF STATE**

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*MCL 24.208 states in part:*

*“Sec. 8. (1) The Office of Regulatory Reinvention shall publish the Michigan register at least once each month. The Michigan register shall contain all of the following:*

\* \* \*

*(f) Administrative rules filed with the secretary of state.”*

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**ADMINISTRATIVE RULES**

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DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS

DIRECTOR'S OFFICE

SPEECH-LANGUAGE PATHOLOGY - GENERAL RULES

Filed with the Secretary of State on March 16, 2016

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

(By authority conferred on the director of the department of licensing and regulatory affairs by sections 16145, 17601, and 17610 of 1978 PA 368, MCL 333.16145, 333.17601, and 333.17610 and Executive Reorganization Order Nos. 1996-1, 1996-2, 2003-1 and 2011-4, MCL 330.3101, 445.2001, 445.2011 and 445.2030)

R 338.601, R 338.607, R 338.611, R 338.613, R 338.617, R 338.619, R 338.621, and R 338.623 of the Michigan Administrative Code are amended, and R 338.602, R 338.604, R 338.627, R 338.629, R 338.641, R 338.645, R 338.647, and R 338.649 are added to the Administrative Code, and R 338.609 and R 338.625 are rescinded from the Administrative Code as follows:

R 338.601 Definitions.

Rule 1. As used in these rules:

- (a) "Board" means the board of speech-language pathology created in section 17605 of the code, MCL 333.17605.
- (b) "Code" means 1978 PA 368, MCL 333.1101 to 333.25211.
- (c) "Department" means the department of licensing and regulatory affairs.
- (d) "Endorsement" means the acknowledgement that the licensing criteria in 1 jurisdiction is substantially equivalent to the criteria established and described in section 16186 of the code, MCL 333.16186.

R 338.602 License required; use of titles or words.

Rule 2. In addition to the titles and words specified in section 17603 of the code, MCL 333.17603, the following terms are also prohibited from use unless an individual is licensed as a speech-language pathologist:

“Teacher of speech and language impaired.”  
“T.S.L.I.”

R 338.604 Training standards for identifying victims of human trafficking; requirements.

Rule 4. (1) Pursuant to section 16148 of the code, MCL 333.16148, an individual seeking licensure or licensed under article 15 of 1978 PA 368 shall complete training in identifying victims of human trafficking that meets the following standards:

- (a) Training content shall cover all of the following:

- (i) Understanding the types and venues of human trafficking in the United States.
  - (ii) Identifying victims of human trafficking in health care settings.
  - (iii) Identifying the warning signs of human trafficking in health care settings for adults and minors.
  - (iv) Resources for reporting the suspected victims of human trafficking.
- (b) Acceptable providers or methods of training include any of the following:
- (i) Training offered by a nationally recognized or state-recognized, health-related organization.
  - (ii) Training offered by, or in conjunction with, a state or federal agency.
  - (iii) Training obtained in an educational program that has been approved by the board for initial licensure, or by a college or university.
  - (iv) Reading an article related to the identification of victims of human trafficking that meets the requirements of subrule (1)(a) of this rule and is published in a peer review journal, health care journal, or professional or scientific journal.
- (c) Acceptable modalities of training may include any of the following:
- (i) Teleconference or webinar.
  - (ii) Online presentation.
  - (iii) Live presentation.
  - (iv) Printed or electronic media.
- (2) The department may select and audit a sample of individuals and request documentation of proof of completion of training. If audited by the department, an individual shall provide an acceptable proof of completion of training, including either of the following:
- (a) Proof of completion certificate issued by the training provider that includes the date, provider name, name of training, and individual's name.
  - (b) A self-certification statement by an individual. The certification statement shall include the individual's name and either of the following:
    - (i) For training completed pursuant to subrule (1)(b)(i) to (iii) of this rule, the date, training provider name, and name of training.
    - (ii) For training completed pursuant to subrule (1)(b)(iv) of this rule, the title of article, author, publication name of peer review journal, health care journal, or professional or scientific journal, and date, volume, and issue of publication, as applicable.
- (3) Pursuant to section 16148 of the code, MCL 333.16148, the requirements specified in subrule (1) of this rule shall apply for license renewals beginning with the first renewal cycle after the promulgation of this rule and for initial licenses issued 5 or more years after the promulgation of this rule.

R 338.607 Application for limited speech-language pathology license; certified teacher; requirements.

Rule 7. (1) The department may issue a limited license under section 16182(1) of the code, MCL 333.16182.

(2) An applicant who applies for a limited license as a speech-language pathologist prior to December 7, 2013 shall meet both of the following requirements:

(a) Submit the required fee and a completed application on a form provided by the department.

(b) Establish that the applicant is a certified teacher whose teaching certificate was endorsed on January 12, 2009, in the area of speech and language impairment for the sole purpose of providing speech-language impairment services as part of employment or contract with a school district, nonpublic school, or state department that provides educational services.

(3) A limited license is valid only for employment described in subrule (2)(b) of this rule.

(4) A limited license may be renewed if the limited license holder continues to meet the requirements of subrule (2)(b) of this rule.

R 338.609 Rescinded.

R 338.611 Licensure by endorsement; speech-language pathologist.

Rule 11. (1) An applicant for a license by endorsement as a speech-language pathologist shall submit the required fee and a completed application on a form provided by the department. In addition to meeting the requirements of the code and these rules, an applicant who satisfies the requirements of this rule, as applicable, shall meet the requirements of section 16186 of the code, MCL 333.16186.

(2) If an applicant was first registered or licensed in another state or province of the United States or Canada for 5 years or more immediately preceding the date of filing an application for a Michigan license, then the applicant shall meet both of the following requirements:

(a) Possess a master's or doctoral degree from an accredited educational program that meets the standards adopted by the board under R 338.619 or an educational program that meets the requirements of R 338.617(1)(a).

(b) Have passed the praxis series II speech-language pathology examination with a score adopted by the board under R 338.605.

(3) If an applicant was first registered or licensed in another state or province of the United States or Canada for less than 5 years immediately preceding the date of filing an application for a Michigan license, then the applicant shall meet both of the following requirements:

(a) Meet the requirements of subrule (2)(a) and (b) of this rule.

(b) Have successfully completed a supervised postgraduate clinical experience in speech-language pathology that meets the requirements of R 338.615.

(4) If an applicant possesses current certification as a speech-language pathologist by the American speech-language-hearing association (asha) or the Canadian association of speech language pathologists and audiologists (caslpa), then the applicant is presumed to meet the requirements of subrule (2) or (3) of this rule, as applicable.

(5) In addition to meeting the requirements of either subrule (2) or (3) of this rule, as applicable, an applicant's registration or license shall be verified, on a form provided by the department, by the licensing agency of any state or province of the United States or Canada in which the applicant holds a current registration or license or ever held a registration or license as a speech-language pathologist. Verification includes, but is not limited to, showing proof of any disciplinary action taken or pending against the applicant.

R 338.613 Supervised postgraduate clinical experience; educational limited license; requirements.

Rule 13. (1) The department may issue an educational limited license under section 16182(2)(a) of the code, MCL 333.16182(2)(a).

(2) An applicant for a license as a speech-language pathologist who meets the educational requirements in R 338.603(1)(a) or R 338.617(1)(a) but who still must complete the required supervised postgraduate clinical experience shall submit the required fee and a completed application for an educational limited license on a form provided by the department. In addition to meeting the requirements of the code and these rules, an applicant for an educational limited license shall meet both of the following requirements:

(a) Have documentation provided directly to the department from an educational program verifying the applicant's possession of a master's or doctoral degree from an accredited

educational program that meets the standards adopted by the board under R 338.619 or from an educational program that meets the requirements of R 338.617(1)(a).

(b) Submit a plan for the supervised postgraduate clinical experience on a form provided by the department that is signed by a speech-language pathologist who is licensed and has agreed to supervise the applicant's postgraduate experience.

(3) The supervised postgraduate clinical experience shall comply with both of the following:

(a) The experience shall meet the requirements of R 338.615.

(b) Only experience obtained by an individual who holds an educational limited license in a supervised postgraduate clinical situation approved under R 338.615 shall count toward the experience requirement.

(4) If an individual transfers to a different supervised postgraduate clinical situation, then he or she shall submit a plan for the new supervised postgraduate clinical situation on a form provided by the department that is signed by a speech-language pathologist who is licensed and has agreed to supervise the individual's postgraduate experience.

(5) An educational limited license shall be issued for 2 years and shall not be renewed more than 2 times.

R 338.617 Graduate of non-accredited postsecondary institution; speech-language pathologist; licensure.

Rule 17. (1) An applicant for a speech-language pathology license who graduated from a non-accredited postsecondary institution shall submit the required fee and a completed application on a form provided by the department. In addition to meeting the requirements of the code and these rules, an applicant shall meet all of the following requirements:

(a) Possess a master's or doctoral degree from an educational program that is substantially equivalent to an accredited educational program that meets the standards adopted by the board under R 338.619. Evidence of having completed a substantially equivalent educational program includes an evaluation of the applicant's non-accredited education by a recognized and accredited credential evaluation agency.

(b) Have successfully completed a supervised postgraduate clinical experience in speech-language pathology that meets the requirements of R 338.615.

(c) Have passed the praxis series II examination in speech-language pathology with a score approved by the board under R 338.605.

(d) Demonstrate a working knowledge of the English language if the applicant's educational program was taught in a language other than English. To demonstrate a working knowledge of the English language, the applicant shall establish either of the following:

(i) The applicant has obtained a score of not less than 570 on the test of English as a foreign language paper-based test (toefl pbt) administered by the educational testing service and obtained a score of not less than 50 on the test of spoken English administered by the educational testing service.

(ii) The applicant has obtained a total score of not less than 89 on the test of English as a foreign language internet-based test (toefl ibt) administered by the educational testing service and obtained the following section scores:

(A) Not less than 22 on the reading section.

(B) Not less than 22 on the listening section.

(C) Not less than 26 on the speaking section.

(D) Not less than 24 on the writing section.

(2) If an applicant possesses current certification of clinical competence in speech-language pathology (ccc-slp) from the American speech-language-hearing association (asha), then the applicant presumably meets the requirements of subrule (1)(a), (b), (c), and (d) of this rule.

R 338.619 Educational standards; adoption by reference.

Rule 19. (1) The board approves and adopts by reference in these rules the standards of the council on academic accreditation in audiology and speech language pathology (caa) for the accreditation of speech-language pathology education programs in the publication entitled "Standards for Accreditation of Graduate Education Programs in Audiology and Speech-Language Pathology," which were effective January 1, 2008 2014. Copies of the standards are available from the American Speech-Language-Hearing Association, 2200 Research Boulevard, Rockville, MD 20850-3289 at no cost from the association's website at [http://www.asha.org/academic/accreditation/standards\\_forms.htm](http://www.asha.org/academic/accreditation/standards_forms.htm). A copy of the standards also is available for inspection and distribution at cost from the Board of Speech-Language Pathology, Bureau of Health Professions, Michigan Department of Licensing and Regulatory Affairs, 611 West Ottawa, Lansing, MI 48909.

(2) Any educational program for speech-language pathologists that is accredited by the council on academic accreditation in audiology and speech-language pathology (caa) qualifies as a speech-language pathology educational program approved by the board.

(3) A higher education institution is considered approved by the board if it is accredited by the accrediting body of the region in which the institution is located and the accrediting body meets either the recognition standards and criteria of the council for higher education accreditation or the recognition procedures and criteria of the U.S. department of education. The board adopts by reference the procedures and criteria for recognizing accrediting agencies of the U.S. department of education, effective July 1, 2000, as contained in Title 34, Part 602 of the Code of Federal Regulations, and the policies and procedures for recognition of accrediting organizations of the council for higher education accreditation (chea), effective January 23, 2006. Copies of the standards and criteria of the council for higher education accreditation and the U.S. department of education are available for inspection and distribution at cost from the Michigan Board of Speech-Language Pathology, Bureau of Health Professions, Department of Licensing and Regulatory Affairs, 611 West Ottawa, P.O. Box 30670, Lansing, MI 48909. The chea recognition standards may also be obtained at no cost from the council's website at <http://www.chea.org>. The federal recognition criteria may also be obtained at no cost from the website for the U.S. Department of Education, Office of Postsecondary Education at: <http://www.ed.gov/about/offices/list/OPE/index.html>.

(4) The board adopts by reference the standards of the following postsecondary accrediting organizations, which are available for inspection and distribution at cost from the Michigan Board of Speech-Language Pathology, Bureau of Health Professions, Department of Licensing and Regulatory Affairs, 611 West Ottawa, P.O. Box 30670, Lansing, MI 48909. Copies of the following standards may be obtained from the individual accrediting organization at the identified cost:

(a) The standards of the Middle States Commission on Higher Education, 3624 Market Street, Philadelphia, PA 19104, set forth in the document entitled "Characteristics of Excellence in Higher Education: Eligibility Requirements and Standards for Accreditation," 2011 edition, which is available at no cost on the commission's website at <http://www.msche.org>.

(b) The standards of the New England Association of Schools and Colleges, Inc., Commission on Institutions of Higher Education, 209 Burlington Road, Bedford, MA 07130, in the document

entitled "Standards for Accreditation," 2011 edition, which is available at no cost on the association's website at <http://www.neasc.org>.

(c) The standards of the North Central Association of Colleges and Schools, The Higher Learning Commission, 230 South LaSalle Street, Suite 7-500, Chicago, IL 60604, set forth in the document entitled "Criteria for Accreditation, Assumed Practices, Obligations of Affiliation," effective January 1, 2013, which is available for no cost on the association's website at <http://www.ncahlc.org/information-for-institutions/obtaining-accreditation.html>.

(d) The standards of the Northwest Commission on Colleges and Universities, 8060 165th Avenue NE, Suite 100, Redmond, WA 98052, set forth in the document entitled "Accreditation Handbook," 2013 edition, which is available at no cost on the commission's website at <http://www.nwccu.org>.

(e) The standards of the Southern Association of Colleges and Schools, Commission on Colleges, 1866 Southern Lane, Decatur, GA 30033, set forth in the document entitled "Principles of Accreditation: Foundation for Quality Enhancement", 2012 Edition, which is available at no cost on the association's website at <http://www.sacscoc.org>.

(f) The standards of the Western Association of Schools and Colleges, the Accrediting Commission for Senior Colleges and Universities, 985 Atlantic Avenue, Suite 100, Alameda, CA 94501, set forth in the document entitled "Handbook of Accreditation," 2013 edition, which is available at no cost on the commission's website at <http://www.wascsenior.org>.

#### R 338.621 Relicensure.

Rule 21. (1) An applicant whose license has lapsed for less than 3 years preceding the date of application for relicensure may be relicensed under section 16201(3) of the code, MCL 333.16201(3), if the applicant satisfies both of the following requirements:

- (a) Submits the required fee and a completed application on a form provided by the department.
- (b) Submits proof to the department of acquiring not less than 20 continuing professional development (cpd) credits that satisfies the requirements of R 338.629 during the 2 years immediately preceding the date of the application for relicensure.

(2) An applicant whose license has lapsed for 3 years or more preceding the date of application for relicensure may be relicensed under section 16201(4) of the code, MCL 333.16201(4), if the applicant satisfies all of the following requirements:

- (a) Submits the required fee and a completed application on a form provided by the department.
- (b) Submits proof to the department of acquiring not less than 20 continuing professional development credits that satisfies the requirements of R 338.629 during the 2 years immediately preceding the date of application for relicensure.
- (c) Satisfies either of the following requirements:
  - (i) Passes the praxis series II examination in speech-language pathology with a score approved by the board under R 338.605.
  - (ii) Presents evidence to the department that he or she was registered or licensed as a speech language pathologist in another state during the 3-year period immediately preceding the application for relicensure.

(3) In addition to meeting the requirements of subrule (1) or (2) of this rule, an applicant's registration or license shall be verified, on a form provided by the department, by the licensing agency of any state of the United States in which the applicant holds a current registration or license or ever held a registration or license as a speech language pathologist. Verification includes, but is not limited to, showing proof of any disciplinary action taken or pending against the applicant.

R 338.623 Relicensure; certified teachers; limited license.

Rule 23. (1) An applicant whose limited license has lapsed for less than 3 years preceding the date of application for relicensure may be relicensed under section 16201(3) of the code, MCL 333.16201(3), if the applicant meets all of the following requirements:

(a) Submits the required fee and a completed application on a form provided by the department.

(b) Meets the requirements of R 338.607(2)(b).

(c) Submits proof to the department of acquiring not less than 20 continuing professional development credits that satisfies the requirements of R 338.629.

(2) In addition to meeting the requirements of subrule (1) of this rule, an applicant's registration or license shall be verified, on a form provided by the department, by the licensing agency of any state of the United States in which the applicant holds a current registration or license or ever held a registration or license as a speech language pathologist. Verification includes, but is not limited to, showing proof of any disciplinary action taken or pending against the applicant.

(3) An applicant whose limited license has lapsed for 3 years or more is not eligible for relicensure but may apply for a full and unlimited license under R 338.603.

R 338.625 Rescinded.

R 338.627 License renewal; requirements; applicability.

Rule 27. (1) This rule applies to applications for renewal of a speech-language pathologist license or a limited speech-language pathologist license under section 17609(1), (2) and (3) of the code, MCL 333.17609(1), (2) and (3), that are filed for renewal cycles beginning 1 year or more after the effective date of this rule.

(2) An applicant for license renewal who has been licensed for the 2-year period immediately preceding the expiration date of the license shall accumulate not less than 20 continuing professional development (cpd) credits in activities approved by the board in R 338.629 during the 2 years preceding the application for renewal.

(3) Submission of an application for renewal shall constitute the applicant's certification of compliance with the requirements of this rule. A licensee shall retain documentation of meeting the requirements of this rule for a period of 3 years from the date of applying for license renewal. Failure to comply with this rule is a violation of section 16221(h) of the code, MCL 333.16221(h).

(4) The department may select and audit a sample of licensees who have renewed their license and request proof of compliance with subrule (2) of this rule. If audited, a licensee shall submit documentation as specified in R 338.629.

R 338.629 Acceptable continuing professional development activities; requirements, limitations.

Rule 29. (1) The 20 continuing professional development (cpd) credits required under R 338.627(2) for the renewal of a license shall comply with the following as applicable:

(a) No more than 12 cpd credits shall be earned for approved continuing education programs or activities during one 24-hour period.

(b) A licensee shall not earn cpd credit for a continuing education program or activity that is substantially identical to a program or activity the licensee has already earned credit for during that renewal period.

(c) Pursuant to section 16204(2) of the code, MCL 333.16204(2), a licensee shall earn at least 1 cpd credit in the area of pain and symptom management by completing a continuing education program or activity. Credits in pain and symptom management may include, but are not limited to, courses or activities relevant to the practice of speech-language pathology and relating to the

public health burden of pain; ethics and health policy relating to pain; pain definitions; basic sciences including pharmacology, psychology, and sociology; clinical sciences relating to pain; clinician-patient communications as relating to pain; management of pain including evaluation and treatment; ensuring quality pain care; and programs and resources relevant to pain.

(2) Credit may be earned for any of the following activities:

Activity	Number of Approved CPD Credits
<p>Completing an approved continuing education program or activity related to the practice of speech-language pathology or any non-clinical subject relevant to the practice of speech-language pathology. A continuing education program or activity is approved, regardless of the format in which it is offered, if it is approved, sponsored, or accepted for continuing education credit by any of the following:</p> <p>American speech-language hearing association (asha).                      Michigan board of audiology.                      Michigan board of medicine.                      Michigan board of osteopathic medicine and surgery.                      A speech-language pathology board of any state of the United States.</p> <p>If audited, a licensee shall submit a copy of a letter or certificate of completion showing the licensee’s name, number of credits earned, sponsor name or the name of the organization that approved the program or activity for continuing education credit, and the date or dates on which the program or activity was completed.</p>	<p>The number of credits approved by the sponsor or the approving organization is the number of credits that approved for each continuing education program or activity.</p> <p>A minimum of 6 cpd credits shall be earned in this activity. A maximum of 15 cpd credits may be earned for these activities in each renewal period.</p>
<p>Reading an article related to the practice of speech-language pathology in a professional or scientific journal. This activity does not include articles offered as a continuing education activity by asha.</p> <p>If audited, the licensee shall submit a signed document that lists the journals read, including title of article, journal name, volume number, and author.</p>	<p>1 cpd credit shall be granted for each article read. A maximum of 5 cpd credits may be earned for this activity each renewal period.</p>
<p>Presenting a continuing education program related to the practice of speech-language pathology.</p> <p>To receive credit, the presentation shall be approved, sponsored, or accepted for continuing education credit by any of the following:</p>	<p>2 cpd credits shall be granted for each 50 to 60 minutes of presentation. A presentation shall not be less than 50 minutes in length. No additional credit shall be granted for preparation. Pursuant to R 338.629(1)(b), credit for</p>

<p>asha Michigan board of audiology Michigan board of medicine Michigan board of osteopathic medicine and surgery. A speech-language pathology board of any state of the United States.</p> <p>If audited, a licensee shall submit a letter from the program sponsor confirming the licensee as the present and the presentation date and time, or a copy of the presentation notice or advertisement showing the date of presentation, the licensee's name listed as the presenter, and the name of the organization that approved or offered the presentation for continuing education credit.</p>	<p>a presentation shall be granted only once per a renewal period. A maximum of 10 credits may be earned for this type of activity in each renewal period.</p>
<p>Initial presentation of a scientific exhibit or paper accepted for presentation through a peer review process at a state, regional, national or international speech-language pathology conference, or its components, or a related professional organization.</p> <p>If audited, a licensee shall submit a copy of the document presented with evidence of presentation or a letter from the program sponsor verifying the exhibit or paper was accepted for presentation through a peer review process and the date of presentation.</p>	<p>2 cpd credits shall be granted for each presentation. No additional credit for preparation shall be granted. Pursuant to R 338.629(1)(b), credit for a presentation shall be granted only once per a renewal period. A maximum of 10 credits may be earned for this type of activity in each renewal period.</p>
<p>Writing an article related to the practice, education, or research of speech-language pathology that is published in any of the following: Association journal A peer reviewed journal A health care journal A professional or scientific journal</p> <p>If audited, a licensee shall submit a copy of the publication that identifies the licensee as the author of the article or a publication acceptance letter.</p>	<p>3 cpd credits shall be granted for each article. Pursuant to R 338.629(1)(b), credit for an article shall be granted once per renewal period. A maximum number of 9 credits may be earned for this type of activity in each renewal period.</p>
<p>Writing a chapter related to the practice, education, or research of speech-language pathology that is published in a text book.</p> <p>If audited, the licensee shall submit a copy of the publication that identifies the licensee as the author of the chapter or a publication acceptance letter.</p>	<p>3 cpd credits for each chapter shall be granted. Pursuant to R 338.629(1)(b) credit for a chapter shall be granted only once in a renewal period. A maximum of 9 credits may be earned for this type of activity in each renewal period.</p>

<p>Serving as an instructor of students, staff, or other licensees at a clinical program related to the practice of speech-language pathology provided through or recognized by an accredited speech language pathology educational program that meets the standards set in R 338.619.</p> <p>If audited, the licensee shall submit a letter from the program director verifying the licensee’s role, the number of instructional sessions on specific subjects provided by the licensee, and the length of the instructional sessions. Also, the letter shall verify that the clinical training program was provided, offered, or accredited by an educational program or organization that meets the requirements of this rule.</p>	<p>2 cpd credits shall be granted for each 50 to 60 minutes instructional session on a specific subject. No additional credit shall be granted for preparation. A maximum of 10 cpd credits may be earned for this type of activity in each renewal period.</p>
<p>Serving as a clinical supervisor for students completing an internship, residency, or fellowship program that is recognized or approved by R 338.615.</p> <p>If audited, a licensee shall submit a letter from the educational program or clinical agency director verifying the licensee’s role, the number of hours of instruction or supervision provided by the licensee, and that the internship, residency, or fellowship program is recognized or approved by an educational program or organization that meets the requirements of this rule.</p>	<p>1 cpd credit shall be granted for 1 hour of clinical instruction or supervision. A maximum of 5 cpd credits may be earned for this type of activity in each renewal period.</p>
<p>Providing supervision as part of a disciplinary sanction.</p> <p>If audited, the licensee shall submit an affidavit from the disciplinary limited licensee who received the supervision. The affidavit shall attest to the licensee’s role as supervisor and the number of hours the licensee spent providing supervision to the disciplinary limited speech-language pathologist.</p>	<p>1 cpd credit shall be granted for 1 hour of supervision provided. A maximum of 5 cpd credits may be earned for this type of activity in each renewal period.</p>
<p>Participating on an international, national, regional, state, state component, or local task force, committee, board, council, or association related to the field of speech-language pathology. A task force, committee board, council, or association is considered acceptable if it enhances the participant’s knowledge and understanding of the field of speech-language pathology.</p>	<p>5 cpd credits shall be granted for participation on each task force, committee, board, council, or association shall be granted. A maximum of 5 cpd credits may be earned for this type of activity in each renewal period.</p>

<p>If audited, a licensee shall submit documentation verifying the licensee’s participation in at least 50% of the regularly scheduled meetings of the task force, committee, board, council, or association.</p>	
<p>Participation in the development of a national examination for speech-language pathologists.</p> <p>If audited, the licensee shall submit documentation from the sponsor of the examination verifying the licensee’s role and participation in the development of the examination.</p>	<p>5 cpd credits shall be granted for participation. A maximum of 5 cpd credits may be earned for this type of activity in each renewal period.</p>
<p>Participating in an in-service program relating to the practice of speech-language pathology provided or sponsored by a Michigan school system.</p> <p>If audited, the licensee shall submit documentation from the in-service provider verifying the date and number of hours for the in-service program, the program’s relationship to speech-language pathology, and the licensee’s participation.</p>	<p>1 cpd credit shall be granted for each hour of in-service completed. A maximum of 5 cpd credits shall be granted for this type of activity in each renewal period.</p>

R 338.641 Continuing education providers; standards for approval.

Rule 41. (1) A continuing education provider that is not pre-approved under R 338.629 may be approved by the board. To be approved by the board, the provider must comply with subrules (2) and (3) of this rule, complete an application provided by the department, and file the application with the department for review no later than 60 days before the program date. The application and supporting documentation shall include all of the following information:

- (a) A program schedule, including date of program, topics, name of speaker, and break times.
- (b) An explanation of how the program is being designed to further educate speech-language pathologists, including a short narrative describing the program content and the criteria for the selection of this topic.
- (c) Copies of instructional objectives that have been developed.
- (d) Copies of all promotional and advertising materials for the program.
- (e) The name, title, and address of the program director and a description of his or her qualifications to direct the program.
- (f) A description of how the amount of continuing education credit to be awarded for this program was determined.
- (g) A description of how participants will be notified that continuing education credit has been earned.
- (h) A copy of the curriculum vitae for each instructional staff member.
- (i) A description of the delivery method or methods to be used and the techniques that will be employed to assure active participation.
- (j) A copy of the post-test instrument that will be used for participant evaluation.
- (k) A description of how post tests will be administered, corrected, and returned to participants.

(l) A description of how post-test performance will influence the awarding of continuing education credit.

(m) A description of how attendance is monitored, including sample documents, and the name of the person monitoring attendance.

(2) The continuing education program approved under subrule (1) of this rule must be all of the following:

(a) An organized program of learning that will contribute to the advancement and enhancement of professional competency and scientific knowledge in the practice of speech-language pathology and be designed to reflect the educational needs of speech-language pathologists.

(b) Have a scientific and educational integrity and contain generally accepted speech-language pathology practices.

(c) A course must have an outline that demonstrates consistency with the course description and reflects the course content.

(d) A course must be taught in a manner appropriate to the educational content, objectives, and purpose of the program and must allow suitable time to be effectively presented to the audience.

(e) Instructors must have the necessary qualifications, training, and/or experience to teach the course.

(f) The activity shall provide for active participation and involvement from the participants.

(g) The activity shall offer educational materials for each continuing education activity that will enhance the participant's understanding of the content and foster applications to speech-language pathology practice.

(h) The activity shall include learning assessments in each activity that allow speech-language pathologists to assess their achievement of the learned content. Completion of a learning assessment is required for continuing education content.

(3) The program provider or sponsor approved under subrule (1) of this rule shall issue certificates or letters of attendance which include all of the following:

(a) The name of the sponsor.

(b) The name of the program.

(c) The name of the attendee.

(d) The date of the program.

(e) The Michigan approval number.

(f) The signature of the person responsible for attendance monitoring and his or her title.

(g) The number and type of hours attended.

R 338.645 Patient records and collaboration.

Rule 45. A speech-language pathologist shall maintain patient records in accordance with section 16213 of the code, MCL 333.16213. The records shall be made available to other health professionals involved in the care of the patient in accordance with the health insurance portability and accountability act (hipaa) of 1996, Public Law 104-191.

R 338.647 Referral required.

Rule 47. A speech-language pathologist shall not assess or treat a patient for either of the following, unless the patient has been referred by a physician licensed in the practice of medicine or osteopathic medicine and surgery in the state of Michigan:

Swallowing disorders.

Medically-related communication disorders.

Rule 338.649 Physically invasive procedures; supervision required.

Rule 49. (1) Physically invasive procedures beyond the oropharynx include the following:

Esophageal manometry.

Fiberoptic endoscopic examination of swallowing (fees).

Fiberoptic laryngovideostroboscopy.

(2) In accordance with section 17610(3) of the code, MCL 333.17610(3), a speech-language pathologist shall only perform the procedures set forth in subrule (1) of this rule under the supervision of a physician licensed to practice medicine or osteopathic medicine and surgery in the state of Michigan. Supervision is defined in section 16109(2) of the code, MCL 333.16109(2).

(3) A speech-language pathologist shall only perform the procedures listed in subrule (1) of this rule in a setting where a physician licensed in the practice of medicine or osteopathic medicine is physically available to ensure for patient safety.

(4) A speech-language pathologist performing physically invasive procedures under the supervision of a physician shall be familiar with risks associated with physically invasive procedures, including but not limited to, epistaxis, mucosal injury, gagging, allergic reaction to topical anesthetic, laryngospasm, and vasovagal response, and the need for medical intervention.

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**ADMINISTRATIVE RULES**

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DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS

DIRECTOR'S OFFICE

VETERINARY TECHNICIAN LICENSURE

Filed with the Secretary of State on March 16, 2016

These rules become effective immediately upon filing with the Secretary of State unless adopted under section 33, 44, or 45(a)(6) 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 licensing and regulatory affairs by section 16145 of 1978 PA 368, MCL 333.16145 and Executive Reorganization Order Nos. 1996-1, 1996-2, 2003-1, and 2011-4, MCL 330.3101, 445.2001, 445.2011, and 445.2030)

R 338.4971, R 338.4972, R 338.4973, R 338.4976, R 338.4978, and R 338.4982 of the Michigan Administrative Code are amended as follows:

R 338.4971 Definitions.

Rule 1. As used in these rules:

- (a) "Board" means the board of veterinary medicine.
- (b) "Code" means 1978 PA 368, MCL 333.1101 to 333.25211.
- (c) "Department" means the department of licensing and regulatory affairs.

R 338.4972 Licensure by examination; requirements.

Rule 2. (1) An applicant for a Michigan veterinary technician license by examination shall submit a completed application on a form provided by the department, together with the requisite fee. In addition to meeting the requirements of the code and the administrative rules promulgated pursuant to the code, an applicant shall meet all of the requirements of this rule.

(2) An applicant shall have graduated from a program for training veterinary technicians that is approved by the board.

(3) An applicant shall have achieved a score of pass on the veterinary technician national examination developed by the American association of veterinary state boards or its successor organization (aavsb).

R 338.4973 Eligibility for examination.

Rule 3. To assure eligibility for the examination required by R 338.4972(3), an applicant shall submit a completed application on a form provided by the department, together with the requisite fee, not less than 45 days before the date of the examination. To be eligible for examination, an applicant shall establish that he or she has either graduated from, or is a student in good standing in the final year of, a program for training veterinary technicians that is approved by the board.

R 338.4976 Licensure by endorsement; requirements.

Rule 6. (1) An applicant for a Michigan veterinary technician license by endorsement shall submit a completed application on a form provided by the department, together with the requisite fee. In addition to meeting the requirements of the code and the administrative rules promulgated pursuant to the code, an applicant shall meet the requirements of this rule.

(2) An applicant shall have been first licensed, registered, or certified in another state after achieving a passing score on the veterinary technician national examination developed by the aavsb.

(3) If an applicant was first licensed, registered, or certified in another state, the applicant shall have graduated from a program for training veterinary technicians that is approved by the board.

(4) An applicant's license shall be verified, on a form provided by the department, by the licensing agency of any state of the United States in which the applicant holds a current license or ever held a license as a veterinary technician. Verification includes, but is not limited to, showing proof of any disciplinary action taken or pending disciplinary action imposed upon the applicant.

R 338.4978 Approval of veterinary technician training programs; standards adopted by reference.

Rule 8. (1) The board approves and adopts by reference the standards for accrediting programs for training veterinary technicians adopted by the American veterinary medical association committee on veterinary technician education and activities entitled "Accreditation Policies and Procedures of the American Veterinary Medical Association Committee on Veterinary Technician Education and Activities," July 2014.

(2) The standards for accrediting programs for training veterinary technicians adopted by the American veterinary medical association committee on veterinary technician activities and training are available at no cost from the American Veterinary Medical Association, 1931 N. Meacham Road, Suite 100, Schaumburg, IL 60173 or at the association's website at <http://www.avma.org>. A copy of the standards is available for inspection or distribution at cost from the Board of Veterinary Medicine, Department of Licensing and Regulatory Affairs, 611 West Ottawa, P.O. Box 30670, Lansing, MI 48909.

R 338.4982 Relicensure.

Rule 12. (1) An applicant for relicensure whose license has been lapsed for less than 3 years under section 16201(3) of the code, MCL 333.16201(3), may be relicensed after submitting a completed application on a form provided by the department with the requisite fee. The applicant's license shall be verified, on a form provided by the department, by the licensing agency of any state of the United States in which the applicant holds a current license or ever held a license as a veterinary technician. Verification includes, but is not limited to, showing proof of any disciplinary action taken or pending disciplinary action imposed upon the applicant.

(2) An applicant for relicensure whose license has been lapsed for 3 years or more under section 16201(3) of the code, MCL 333.16201(3), may be relicensed after submitting a completed application on a form provided by the department with the requisite fee and satisfying either of the following requirements:

(a) If the applicant had been licensed in another state of the United States and legally engaged in practice as a veterinary technician within the 3-year period immediately preceding the date of the application for relicensure, then the applicant's license shall be verified, on a form provided by the department, by the licensing agency of any state of the United States in which the applicant holds a current license or ever held a license as a veterinary technician. Verification includes, but

is not limited to, showing proof of any disciplinary action taken or pending disciplinary action imposed upon the applicant.

(b) If the applicant had not engaged in practice as a veterinary technician within the 3-year period immediately preceding the date of the application for relicensure, then the applicant shall do both of the following:

(i) Have his or her license verified, on a form provided by the department, by the licensing agency of any state of the United States in which the applicant holds a current license or ever held a license as a veterinary technician, which includes, but is not limited to, showing proof of any disciplinary action taken or pending disciplinary action imposed upon the applicant.

(ii) Have successfully passed the veterinary technician national examination developed by the American association of veterinary state boards or its successor organization within the 3-year period immediately preceding the date of the application for relicensure.

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**ADMINISTRATIVE RULES**

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DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS

DIRECTOR'S OFFICE

PHARMACY TECHNICIANS

Filed with the Secretary of State on March 16, 2016

These rules become effective immediately upon filing with the Secretary of State unless adopted under section 33, 44, or 45a(6) 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 director of the department of licensing and regulatory affairs by sections 16148, 17707, 17731, 17739, 17739a, 17739b, and 17739c, of 1978 PA 368, as amended, MCL 333.16145(3), 333.16148, 333.17703, 333.17707, 333.17731, 333.17739, 333.17739a, 333.17739b, and 17739c and Executive Reorganization Order Nos. 1996-1, 1996-2, 2003-1, and 2011-4, MCL 330.3101, 445.2001, 445.2011, and 445.2030)

R 338.3651, R 338.3653, R 338.3655, R 338.3657, R 338.3659, R 338.3661, R 338.3663, and R 338.3665 are added to the Michigan Administrative Code as follows:

R 338.3651 Pharmacy technician licensure; eligibility; examination.

Rule 1. An applicant for licensure as a pharmacy technician shall submit a completed application on a form provided by the department, together with the appropriate fee. In addition to meeting the requirements of the code and the administrative rules promulgated under the code, an applicant shall comply with all of the following requirements:

(a) Have met the requirements specified in section 17739a(1)(b) and (c) of the code, MCL 333.17739a(1)(b) and (c).

(b) Unless exempt under section 17739a(4) of the code, MCL 333.17739a(4), have passed and provided proof to the department of passing any of the following examinations:

(i) Examinations specified in section 17739a(1)(d)(i) and (ii) of the code, MCL 333.17739a(1)(d)(i) and (ii).

(ii) A nationally recognized pharmacy technician certification examination that covers the topics specified in section 17739a(1)(d)(iv) of the code, MCL 333.17739a(1)(d)(iv), and has been approved by the board.

(iii) An employer-based training program examination with a minimum of 100 questions that covers the topics specified in section 17739a(1)(d)(iv) of the code, MCL 333.17739a(1)(d)(iv), and has been approved by the board pursuant to both of the following:

(A) The employer submits to the department at least 60 days prior to administering the examination a completed application for approval of the examination, the examination, and the answers to the examination.

(B) Approval of the examination shall be valid until the examination is changed.

R 338.3653 Licensure by endorsement.

Rule 3. (1) An applicant for licensure by endorsement shall submit a completed application on a form provided by the department, together with the requisite fee. In addition to meeting the requirements of the code and administrative rules promulgated under the code, an applicant shall satisfy both of the following requirements:

(a) Have met the requirements specified in section 17739a(1)(b) and (c) of the code, MCL 333.17739a(1)(b) and (c).

(b) Meet 1 of the following requirements:

(i) If licensed less than 5 years in another state, submit proof that the applicant passed 1 of the approved examinations specified in R 338.3651(b).

(ii) If licensed 5 or more years in another state, the applicant is presumed to meet the requirements of section 17739a(1)(d) of the code, MCL 333.17739a(1)(d).

(2) In addition to meeting the requirements of subrule (1) of this rule, an applicant's license shall be verified by the licensing agency of another state of the United States in which the applicant holds a current license or ever held a license as a pharmacy technician. This includes, but is not limited to, showing proof of any disciplinary action taken or pending disciplinary action imposed upon the applicant.

R 338.3655 Approved pharmacy technician programs.

Rule 5. (1) Pursuant to sections 16171(a), 17739(2), and 17739a(1) of the code, MCL 333.16171(a), MCL 333.17739(2), and MCL 333.17739a(1), a student in an approved pharmacy technician program is exempt from, and not eligible for, licensure while in the program. Any of the following pharmacy technician programs are considered board-approved for this purpose:

(a) A pharmacy technician program that is accredited by the accreditation council for pharmacy education (acpe).

(b) A pharmacy technician program that is offered by a pharmacist education program that is accredited by the accreditation council for pharmacy education (acpe).

(c) A comprehensive curriculum-based pharmacy technician education and training program conducted by a school that is licensed pursuant to the Proprietary Schools Act, 1943 PA 148, MCL 395.101 to 395.103.

(d) A pharmacy technician training program utilized by a pharmacy or employer that includes specific training in the functions, specified in MCL 333.17739(1), required to assist the pharmacist in the technical functions associated with the practice of pharmacy.

(2) The contents of the training programs offered under subdivisions (c) and (d) of subrule (1) of this rule shall include, at a minimum, all of the following:

(a) The duties and responsibilities of the pharmacy technician and a pharmacist, including the standards of patient confidentiality and ethics governing pharmacy practice.

(b) The tasks and technical skills, policies, and procedures related to the pharmacy technician's position pursuant to the duties specified in section 17739(1) of the code, MCL 333.17739(1), and R 338.3665.

(c) The pharmaceutical-medical terminology, abbreviations, and symbols commonly used in prescriptions and drug orders.

(d) The general storage, packaging, and labeling requirements of drugs, prescriptions, or drug orders.

(e) The arithmetic calculations required for the usual dosage determinations.

(f) The essential functions related to drug purchasing and inventory control.

(g) The recordkeeping functions associated with prescriptions or drug orders.

(3) To gain approval under subdivisions (c) and (d) of subrule (1) of this rule, an application shall be submitted to the department on a form provided by the department, along with an attestation form that verifies compliance with the information required by subrule (2) of this rule.

(4) A record of a student’s pharmacy technician training and education shall be maintained by the pharmacy technician training program, employer, or pharmacy specified in subrule (1) of this rule for a period of 2 years and shall include both of the following:

(a) The full name and date of birth of the pharmacy technician student.

(b) The starting date of the pharmacy technician education program and date the student successfully completed the program.

R 338.3657 Requirements for relicensure; pharmacy technician.

Rule 7. (1) An applicant whose Michigan pharmacy technician license has lapsed under the provisions of section 16201(3) or (4) of the code, MCL 333.16201(3) or (4), and is not currently licensed in another state may be relicensed by submitting a completed application on a form provided by the department, together with the appropriate fee, and complying with the following requirements:

Length of period of lapsed license	Lapsed 0-3 Years	Lapsed more than 3 years
<u>Application and fee:</u> Submit a completed application on a form provided by the department, together with the requisite fee	√	√
<u>Continuing education:</u> Submit proof of having completed 20 hours of continuing education specified in R 338.3661(1)(a)(i) which was completed within the 2-year period immediately preceding the application for relicensure.	√	√
<u>Examination:</u> Within 2 years of the period immediately preceding the application for relicensure, pass 1 of the examinations specified in R 338.3651(b)(i to iii).		√

(2) An applicant whose Michigan pharmacy technician license has lapsed and who holds a current and valid license in another state shall comply with all of the following:

(a) Submit a completed application on a form provided by the department, together with the requisite fee.

(b) Submit proof of having completed 20 hours of continuing education or passing an exam specified in R 338.3661(1)(d)(ii) which was completed within the 2-year period immediately preceding the application for relicensure.

(c) An applicant’s license shall be verified by the licensing agency of all other states or territories of the United States in which the applicant holds a current license or ever held a license as a pharmacy technician. If applicable, verification shall include the record of any disciplinary action taken or pending against the applicant.

R 338.3659. Training standards for identifying victims of human trafficking; requirements.

Rule 9. (1) Pursuant to section 16148 of the code, MCL 333.16148, an individual licensed or seeking licensure shall complete training in identifying victims of human trafficking that meets the following standards:

- (a) Training content covering all of the following:
  - (i) Understanding the types and venues of human trafficking in the United States.
  - (ii) Identifying victims of human trafficking in health care settings.
  - (iii) Identifying the warning signs of human trafficking in health care settings for adults and minors.
  - (iv) Resources for reporting the suspected victims of human trafficking.
- (b) Acceptable providers or methods of training include any of the following:
  - (i) Training offered by a nationally-recognized or state-recognized health-related organization.
  - (ii) Training offered by, or in conjunction with, a state or federal agency.
  - (iii) Training obtained in an educational program that has been approved by the board for initial licensure, or by a college or university.
  - (iv) Reading an article related to the identification of victims of human trafficking that meets the requirements of subdivision (a) of this subrule and is published in a peer review journal, health care journal, or professional or scientific journal.
- (c) Acceptable modalities of training may include any of the following:
  - (i) Teleconference or webinar.
  - (ii) Online presentation.
  - (iii) Live presentation.
  - (iv) Printed or electronic media.
- (2) The department may select and audit a sample of individuals and request documentation of proof of completion of training. If audited by the department, an individual shall provide an acceptable proof of completion of training, including either of the following:
  - (a) Proof of completion certificate issued by the training provider that includes the date, provider name, name of training, and individual's name.
  - (b) A self-certification statement by an individual. The certification statement shall include the individual's name and either of the following:
    - (i) For training completed pursuant to subrule (1)(b)(i) to (iii) of this rule, the date, training provider name, and name of training.
    - (ii) For training completed pursuant to subrule (1)(b)(iv) of this rule, the title of article, author, publication name of peer review journal, health care journal, or professional or scientific journal, and date, volume, and issue of publication, as applicable.
- (3) Pursuant to section 16148 of the code, MCL 333.16148, the requirements specified in subrule (1) of this rule shall apply for license renewals beginning with the first renewal cycle after the promulgation of this rule and for initial licenses issued 5 or more years after the promulgation of this rule.

R 338.3661 Continuing education or exam; renewal requirements.

Rule 11. (1) A licensee seeking renewal of a pharmacy technician's license shall comply with all of the following

- (a) Complete and submit an application for renewal.
- (b) Pay the required renewal fee.
- (c) Comply with R 338.3659.
- (d) Comply with 1 of the following:
  - (i) Except as otherwise provided, complete at least 20 hours of continuing education courses or programs as follows:
    - (A) No more than 12 hours of continuing education credit may be earned during a 24-hour period.

(B) Credit for a continuing education program or activity that is identical to a program or activity that the licensee has already earned credit for during the renewal period shall not be granted.

(C) If audited, the licensee shall submit a copy of a letter or certificate of completion showing the licensee’s name, number of continuing education hours earned, sponsor name or the name of the organization that approved the program or activity for continuing education credit, and the date on which the program was held or activity completed.

(D) At least 5 of the continuing education credits shall be earned by attending live courses, programs or activities that provide for direct interaction with instructors, peers, and participants, including but not limited to lectures, meetings, symposia, real-time teleconferences or webinars, and workshops.

(E) Continuing education credit shall be earned as follows:

	Subjects	Number of continuing education hours required or permitted for each activity
A	Pain and symptom management relating to the practice of pharmacy	Minimum: 1 hour
B	Patient safety	Minimum: 1 hour
C	Pharmacy law	Minimum: 1 hour
D	Pharmacy-related subject matter including the following topics: Medication or drug distribution. Inventory control systems. Mathematics and calculations. Biology. Pharmaceutical sciences. Therapeutic issues. Pharmacy operations. Pharmacology, drug therapy or drug products. Preparation of sterile products. Prescription compounding. Drug repackaging. Patient interaction or interpersonal skills and communication.	Minimum: 17 hours in any combination of D listed subjects. Instruction in each D listed subject is not required. Example 1: Biology, 5 hours; Drug repackaging, 4 hours; Pharmacy operations, 8 hours; total: 17hours. Example 2: Prescription compounding, 17 hours; total: 17 hours. (Minimum: 7 hours in any combination for an applicant under subrule (4) of this rule.)

(ii) Complete a proficiency examination as specified in R 338.3651(b)(i) to (iii).

(2) Submission of an application for renewal shall constitute the applicant’s certification of compliance with this rule. The licensee shall retain documentation of meeting the requirements of this rule for a period of 3 years from the date of applying for license renewal. Failure to comply with this rule is a violation of section 16221(h) of the code, MCL 333.16221(h).

(3) An applicant who was originally licensed in Michigan less than one year before the renewal date is not required to comply with this rule.

(4) An applicant for renewal who was originally licensed in Michigan more than one year but less than two years before the renewal date shall have accumulated ten hours of continuing education credits pursuant to these rules.

R 338.3663 Continuing education providers; standards for approval.

Rule 13. (1) Continuing education for pharmacy technicians that is offered or approved by any of the following providers meets the requirements of R 338.3661(1):

(a) A pharmacy technician educational program that has been approved pursuant to R 338.3655.

(b) Another state board of pharmacy.

(c) A program approved by the Accreditation Council for Pharmacy Education (ACPE).

(2) A continuing education provider that is not pre-approved under subrule (1) of this rule may be approved by the board. To be approved by the board, the provider shall comply with subrules (2), (3), and (4) of this rule, complete an application provided by the department, and file it with the department for review no later than 60 days before the program date. The application and supporting documentation shall include all of the following information:

(a) A program schedule, including date of the program, topics, the name of speaker, and break times.

(b) An explanation of how the program is being designed to further educate pharmacy technicians, including a short narrative describing the program content and the criteria for the selection of this topic.

(c) Copies of instructional objectives that have been developed.

(d) Copies of all promotional and advertising materials for the program.

(e) The name, title and address of the program director and a description of his or her qualifications to direct the program.

(f) A description of how the amount of continuing education credit to be awarded for this program was determined.

(g) A description of how participants will be notified that continuing education credit has been earned.

(h) A description of the physical facilities, lab, or pharmacy available to ensure a proper learning environment.

(i) A copy of the curriculum vitae for each instructional staff member.

(j) A description of the delivery method or methods to be used and the techniques that will be employed to assure active participation.

(k) A copy of the post-test instrument that will be used for participant evaluation.

(l) A description of how post tests will be administered, corrected, and returned to participants.

(m) A description of how post-test performance will influence the awarding of continuing education credit.

(n) A description of how attendance will be monitored, including sample documents, and the name of the person monitoring attendance.

(3) The continuing education program approved under subrule (2) of this rule shall meet all of the following:

(a) Be an organized program of learning that that will contribute to the advancement and enhancement of professional competency and scientific knowledge in the practice of pharmacy and be designed to reflect the educational needs of pharmacy technicians.

(b) Have a scientific and educational integrity and contain generally accepted pharmacy practices.

(c) Have an outline which demonstrates consistency with the course description and reflects the course content.

(d) Be taught in a manner appropriate to the educational content, objectives, and purpose of the program and allow suitable time to be effectively presented to the audience.

(e) Provide instructors who have the necessary qualifications, training, and experience to teach the course.

(f) Provide for active participation and involvement from the participants.

(g) Offer educational materials for each continuing education activity that will enhance the participant's understanding of the content and foster applications to pharmacy practice.

(h) Include learning assessments in each activity that allow pharmacy technicians to assess their achievement of the learned content. Completion of a learning assessment is required for continuing education content.

(4) The program provider or sponsor approved under subrule (2) of this rule shall issue certificates or letters of attendance that include all of the following:

(a) The name of the sponsor.

(b) The name of the program.

(c) The name of the attendee.

(d) The date of the program.

(e) The Michigan approval number as assigned by the department.

(f) The signature of the person responsible for attendance monitoring and his or her title.

(g) The number and type of hours attended.

R 338.3665 Performance of activities and functions; delegation.

Rule 15. In addition to performing the functions described in section 17739(1) of the code, MCL 333.17739(1), a licensed pharmacy technician may also engage in reconstituting dosage forms as defined in 17702(4) of the code, MCL 333.17702(4), under the delegation and supervision of a licensed pharmacist.

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**ADMINISTRATIVE RULES**

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DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS

DIRECTOR'S OFFICE

CHIROPRACTIC - GENERAL RULES

Filed with the Secretary of State on March 17, 2016

These rules become effective immediately upon filing with the Secretary of State unless adopted under section 33, 44, or 45a(6) 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 director of the department of licensing and regulatory affairs by sections 16145(3), 16148, 16401, 16423, and 16431(3) of 1978 PA 368, MCL 333.16145(3), MCL 333.16148, 333.16401, 333.16423, and 333.16431(3) and Executive Reorganization Order Nos. 1996-1, 1996-2, 2003-1, and 2011-4, MCL 333.3101, 445.2001, 445.2011, and 445.2030)

R 338.12001a is being added to the Code as follows:

R 338.12001a. Training standards for identifying victims of human trafficking; requirements.

Rule 1a. (1) Pursuant to section 16148 of the code, MCL 333.16148, an individual licensed or seeking licensure shall complete training in identifying victims of human trafficking that meets the following standards:

- (a) Training content shall cover all of the following:
  - (i) Understanding the types and venues of human trafficking in Michigan or the United States.
  - (ii) Identifying victims of human trafficking in health care settings.
  - (iii) Identifying the warning signs of human trafficking in health care settings for adults and minors.
  - (iv) Resources for reporting the suspected victims of human trafficking.
- (b) Acceptable providers or methods of training include any of the following:
  - (i) Training offered by a nationally recognized or state-recognized, health-related organization.
  - (ii) Training offered by, or in conjunction with, a state or federal agency.
  - (iii) Training obtained in an educational program that has been approved by the board for initial licensure, or by a college or university.
  - (iv) Reading an article related to the identification of victims of human trafficking that meets the requirements of subrule (1)(a) of this rule and is published in a peer review journal, health care journal, or professional or scientific journal.
- (c) Acceptable modalities of training may include any of the following:
  - (i) Teleconference or webinar.
  - (ii) Online presentation.
  - (iii) Live presentation.
  - (iv) Printed or electronic media.

(2) The department may select and audit a sample of individuals and request documentation of proof of completion of training. If audited by the department, an individual shall provide an acceptable proof of completion of training, including either of the following:

(a) Proof of completion certificate issued by the training provider that includes the date, provider name, name of training, and individual's name.

(b) A self-certification statement by an individual. The certification statement shall include the individual's name and either of the following:

(i) For training completed pursuant to subrule (1)(b)(i) to (iii) of this rule, the date, training provider name, and name of training.

(ii) For training completed pursuant to subrule (1)(b)(iv) of this rule, the title of article, author, publication name of peer review journal, health care journal, or professional or scientific journal, and date, volume, and issue of publication, as applicable.

(3) Pursuant to section 16148 of the code, MCL 333.16148, the requirements specified in subrule (1) of this rule apply to license renewals beginning with the first renewal cycle after the promulgation of this rule and for initial licenses issued 5 or more years after the promulgation of this rule.

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**ADMINISTRATIVE RULES**

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DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS

DIRECTOR'S OFFICE

COUNSELING - GENERAL RULES

Filed with the Secretary of State on March 17, 2016

These rules become effective immediately upon filing with the Secretary of State unless adopted under section 33, 44, or 45a(6) 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 director of the department of licensing and regulatory affairs by sections 16145(3), 16148, and 18101 of 1978 PA 368, MCL 333.16145(3), MCL 333.16148, and 333.18101 and Executive Reorganization Order Nos. 1996-1, 1996-2, 2003-1, and 2011-4, MCL 330.3101, 445.2001, 445.2011, and 445.2030)

R 338.1751a is being added to the Code as follows:

Rule 338.1751a Training standards for identifying victims of human trafficking; requirements.

Rule 1a. (1) Pursuant to section 16148 of the code, MCL 333.16148, an individual licensed or seeking licensure shall complete training in identifying victims of human trafficking that meets the following standards:

- (a) Training content shall cover all of the following:
  - (i) Understanding the types and venues of human trafficking in Michigan or the United States.
  - (ii) Identifying victims of human trafficking in health care settings.
  - (iii) Identifying the warning signs of human trafficking in health care settings for adults and minors.
  - (iv) Resources for reporting the suspected victims of human trafficking.
- (b) Acceptable providers or methods of training include any of the following:
  - (i) Training offered by a nationally recognized or state-recognized, health-related organization.
  - (ii) Training offered by, or in conjunction with, a state or federal agency.
  - (iii) Training obtained in an educational program that has been approved by the board for initial licensure, or by a college or university.
  - (iv) Reading an article related to the identification of victims of human trafficking that meets the requirements of subrule (1)(a) of this rule and is published in a peer review journal, health care journal, or professional or scientific journal.
- (c) Acceptable modalities of training may include any of the following:
  - (i) Teleconference or webinar.
  - (ii) Online presentation.
  - (iii) Live presentation.
  - (iv) Printed or electronic media.

(2) The department may select and audit a sample of individuals and request documentation of proof of completion of training. If audited by the department, an individual shall provide an acceptable proof of completion of training, including either of the following:

(a) Proof of completion certificate issued by the training provider that includes the date, provider name, name of training, and individual's name.

(b) A self-certification statement by an individual. The certification statement shall include the individual's name and either of the following:

(i) For training completed pursuant to subrule (1)(b)(i) to (iii) of this rule, the date, training provider name, and name of training.

(ii) For training completed pursuant to subrule (1)(b)(iv) of this rule, the title of article, author, publication name of peer review journal, health care journal, or professional or scientific journal, and date, volume, and issue of publication, as applicable.

(3) Pursuant to section 16148 of the code, MCL 333.16148, the requirements specified in subrule (1) of this rule apply to license renewals beginning with the first renewal cycle after the promulgation of this rule and for initial licenses issued 5 or more years after the promulgation of this rule.

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**ADMINISTRATIVE RULES**

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DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS

DIRECTOR'S OFFICE

BOARD OF MARRIAGE AND FAMILY THERAPY – GENERAL RULES

Filed with the Secretary of State on March 17, 2016

These rules become effective immediately upon filing with the Secretary of State unless adopted under Section 33, 44, or 45a(6) 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 director of the department of licensing and regulatory affairs by sections 16145(3), 16148, and 16109 of 1978 PA 368, MCL 333.16145(3), MCL 333.16148, and MCL 333.16109 and Executive Reorganization Order Nos. 1996-1, 1996-2 and 2003-1, and 2011-4, MCL 330.3101, 445.2001, 445.2011, and 445.2030)

R 338.7202 is added to the Michigan Administrative Code as follows:

R 338.7202 Training standards for identifying victims of human trafficking; requirements.

Rule 2. (1) Pursuant to section 16148 of the code, MCL 333.16148, an individual seeking licensure or licensed shall complete training in identifying victims of human trafficking that meets the following standards:

(a) Training content shall cover all of the following:

(i) Understanding the types and venues of human trafficking in Michigan or the United States.

(ii) Identifying victims of human trafficking in health care settings.

(iii) Identifying the warning signs of human trafficking in health care settings for adults and minors.

(iv) Resources for reporting the suspected victims of human trafficking.

(b) Acceptable providers or methods of training include any of the following:

(i) Training offered by a nationally recognized or state-recognized, health-related organization.

(ii) Training offered by, or in conjunction with, a state or federal agency.

(iii) Training obtained in an educational program that has been approved by the board for initial licensure, or by a college or university.

(iv) Reading an article related to the identification of victims of human trafficking that meets the requirements of subrule (1)(a) of this rule and is published in a peer review journal, health care journal, or professional or scientific journal.

(c) Acceptable modalities of training may include any of the following:

(i) Teleconference or webinar.

(ii) Online presentation.

(iii) Live presentation.

(iv) Printed or electronic media.

(2) The department may select and audit a sample of individuals and request documentation of proof of completion of training. If audited by the department, an individual shall provide an acceptable proof of completion of training, including either of the following:

(a) Proof of completion certificate issued by the training provider that includes the date, provider name, name of training, and individual's name.

(b) A self-certification statement by an individual. The certification statement shall include the individual's name and either of the following:

(i) For training completed pursuant to subrule (1)(b)(i) to (iii) of this rule, the date, training provider name, and name of training.

(ii) For training completed pursuant to subrule (1)(b)(iv) of this rule, the title of article, author, publication name of peer review journal, health care journal, or professional or scientific journal, and date, volume, and issue of publication, as applicable.

(3) Pursuant to section 16148 of the code, MCL 333.16148, the requirements specified in subrule (1) of this rule apply to license renewals beginning with the first renewal cycle after the promulgation of this rule and for initial licenses issued 5 or more years after the promulgation of this rule.

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**ADMINISTRATIVE RULES**

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DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS

DIRECTOR'S OFFICE

NURSING HOME ADMINISTRATORS

GENERAL RULES

Filed with the Secretary of State on March 17, 2016

These rules become effective immediately upon filing with the Secretary of State unless adopted under section 33, 44, or 45a(6) 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 director of the department of licensing and regulatory affairs by sections 16145, 16148, and 17309 of 1978 PA 368, MCL 333.16145, MCL 333.16148, and 333.17309 and Executive Reorganization Order Nos. 1996-1, 1996-2, 2003-1, and 2011-4, MCL 330.3101, 445.2001, 445.2011, and 445.2030)

R 339.14002 is being added to the Code as follows:

R 339.14002 Training standards for identifying victims of human trafficking; requirements.

Rule 2. (1) Pursuant to section 16148 of the code, MCL 333.16148, an individual licensed or seeking licensure shall complete training in identifying victims of human trafficking that meets the following standards:

- (a) Training content shall cover all of the following:
  - (i) Understanding the types and venues of human trafficking in Michigan or the United States.
  - (ii) Identifying victims of human trafficking in health care settings.
  - (iii) Identifying the warning signs of human trafficking in health care settings for adults and minors.
  - (iv) Resources for reporting the suspected victims of human trafficking.
- (b) Acceptable providers or methods of training include any of the following:
  - (i) Training offered by a nationally recognized or state-recognized, health-related organization.
  - (ii) Training offered by, or in conjunction with, a state or federal agency.
  - (iii) Training obtained in an educational program that has been approved by the board for initial licensure, or by a college or university.
  - (iv) Reading an article related to the identification of victims of human trafficking that meets the requirements of subrule (1)(a) of this rule and is published in a peer review journal, health care journal, or professional or scientific journal.
- (c) Acceptable modalities of training may include any of the following:
  - (i) Teleconference or webinar.
  - (ii) Online presentation.
  - (iii) Live presentation.

(iv) Printed or electronic media.

(2) The department may select and audit a sample of individuals and request documentation of proof of completion of training. If audited by the department, an individual shall provide an acceptable proof of completion of training, including either of the following:

(a) Proof of completion certificate issued by the training provider that includes the date, provider name, name of training, and individual's name.

(b) A self-certification statement by an individual. The certification statement shall include the individual's name and either of the following:

(i) For training completed pursuant to subrule (1)(b)(i) to (iii) of this rule, the date, training provider name, and name of training.

(ii) For training completed pursuant to subrule (1)(b)(iv) of this rule, the title of article, author, publication name of peer review journal, health care journal, or professional or scientific journal, and date, volume, and issue of publication, as applicable.

(3) Pursuant to section 16148 of the code, MCL 333.16148, the requirements specified in subrule (1) of this rule apply to license renewals beginning with the first renewal cycle after the promulgation of this rule and for initial licenses issued 5 or more years after the promulgation of this rule.

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**ADMINISTRATIVE RULES**

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DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS

DIRECTOR'S OFFICE

RESPIRATORY CARE - GENERAL RULES

Filed with the Secretary of State on March 17, 2016

These rules become effective immediately upon filing with the Secretary of State unless adopted under sections 33, 44, or 45a(6) 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 director of the department of licensing and regulatory affairs by sections 16148 and 18709 of 1978 PA 368, MCL 333.16148 and MCL 333.18709, and Executive Reorganization Order Nos. 1996-1, 1996-2 and 2003-1, MCL 330.3101, 445.2001, and 445.2011)

R 338.2201a is being added to the Code as follows:

R 338.2201a Training standards for identifying victims of human trafficking; requirements.

Rule 2201a. (1) Pursuant to section 16148 of the code, MCL 333.16148, an individual licensed or seeking licensure shall complete training in identifying victims of human trafficking that meets the following standards:

- (a) Training content shall cover all of the following:
  - (i) Understanding the types and venues of human trafficking in Michigan or the United States.
  - (ii) Identifying victims of human trafficking in health care settings.
  - (iii) Identifying the warning signs of human trafficking in health care settings for adults and minors.
  - (iv) Resources for reporting the suspected victims of human trafficking.
- (b) Acceptable providers or methods of training include any of the following:
  - (i) Training offered by a nationally recognized or state-recognized, health-related organization.
  - (ii) Training offered by, or in conjunction with, a state or federal agency.
  - (iii) Training obtained in an educational program that has been approved by the board for initial licensure, or by a college or university.
  - (iv) Reading an article related to the identification of victims of human trafficking that meets the requirements of subrule (1)(a) of this rule and is published in a peer review journal, health care journal, or professional or scientific journal.
- (c) Acceptable modalities of training may include any of the following:
  - (i) Teleconference or webinar.
  - (ii) Online presentation.
  - (iii) Live presentation.
  - (iv) Printed or electronic media.

(2) The department may select and audit a sample of individuals and request documentation of proof of completion of training. If audited by the department, an individual shall provide an acceptable proof of completion of training, including either of the following:

(a) Proof of completion certificate issued by the training provider that includes the date, provider name, name of training, and individual's name.

(b) A self-certification statement by an individual. The certification statement shall include the individual's name and either of the following:

(i) For training completed pursuant to subrule (1)(b)(i) to (iii) of this rule, the date, training provider name, and name of training.

(ii) For training completed pursuant to subrule (1)(b)(iv) of this rule, the title of article, author, publication name of peer review journal, health care journal, or professional or scientific journal, and date, volume, and issue of publication, as applicable.

(3) Pursuant to section 16148 of the code, MCL 333.16148, the requirements specified in subrule (1) of this rule apply to license renewals beginning with the first renewal cycle after the promulgation of this rule and for initial licenses issued 5 or more years after the promulgation of this rule.

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**ADMINISTRATIVE RULES**

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DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS

SANITARIANS REGISTRATION

REGISTRATION

Filed with the Secretary of State on March 17, 2016

These rules become effective immediately upon filing with the Secretary of State unless adopted under section 33, 44, or 45a(6) 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 director of the department of licensing and regulatory affairs by sections 16145, 16148, 18401, and 18413 of 1978 PA 368, MCL 333.16145, MCL 333.16148, MCL 333.18401, and MCL 333.18413 and Executive Reorganization Order Numbers 1996-1, 1996-2, 2003-1, and 2011-4, MCL 330.3101, 445.2001, 445.2011, and 445.2030)

R 338.3901a is being added to the Code as follows:

R 338.3901a Training standards for identifying victims of human trafficking; requirements.

Rule 1a. (1) Pursuant to section 16148 of the code, MCL 333.16148, an individual seeking registration or registered shall complete training in identifying victims of human trafficking that meets the following standards:

- (a) Training content shall cover all of the following:
  - (i) Understanding the types and venues of human trafficking in Michigan or the United States.
  - (ii) Identifying victims of human trafficking in health care settings.
  - (iii) Identifying the warning signs of human trafficking in health care settings for adults and minors.
  - (iv) Resources for reporting the suspected victims of human trafficking.
- (b) Acceptable providers or methods of training include any of the following:
  - (i) Training offered by a nationally recognized or state-recognized, health-related organization.
  - (ii) Training offered by, or in conjunction with, a state or federal agency.
  - (iii) Training obtained in an educational program that has been approved by the advisory committee for initial registration, or by a college or university.
  - (iv) Reading an article related to the identification of victims of human trafficking that meets the requirements of subrule (1)(a) of this rule and is published in a peer review journal, health care journal, or professional or scientific journal.
- (c) Acceptable modalities of training may include any of the following:
  - (i) Teleconference or webinar.
  - (ii) Online presentation.
  - (iii) Live presentation.
  - (iv) Printed or electronic media.

(2) The department may select and audit a sample of individuals and request documentation of proof of completion of training. If audited by the department, an individual shall provide an acceptable proof of completion of training, including either of the following:

(a) Proof of completion certificate issued by the training provider that includes the date, provider name, name of training, and individual's name.

(b) A self-certification statement by an individual. The certification statement shall include the individual's name and either of the following:

(i) For training completed pursuant to subrule (1)(b)(i) to (iii) of this rule, the date, training provider name, and name of training.

(ii) For training completed pursuant to subrule (1)(b)(iv) of this rule, the title of article, author, publication name of peer review journal, health care journal, or professional or scientific journal, and date, volume, and issue of publication, as applicable.

(3) Pursuant to section 16148 of the code, MCL 333.16148, the requirements specified in subrule (1) of this rule apply to registration renewals beginning with the first renewal cycle after the promulgation of this rule and for initial or registrations issued 5 or more years after the promulgation of this rule.

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**ADMINISTRATIVE RULES**

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DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS

DIRECTOR'S OFFICE

CONSTRUCTION SAFETY STANDARDS

Filed with the Secretary of State on March 15, 2016

These rules become effective immediately upon filing with the Secretary of State unless adopted under section 33, 44, or 45a(6) 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 director of the department of licensing and regulatory affairs by sections 19 and 21 of 1974 PA 154, MCL 408.1019 and 408.1021 and Executive Reorganization Order Nos. 1996-2, 2003-1, 2008-4, and 2011-4, MCL 445.2001, 445.2011, 445.2025, and 445.2030)

R 408.41501, R 408.41505, R 408.41510, R 408.41515, R 408.41520, R 408.41521, R 408.41522, R 408.41523, R 408.41524, R 408.41525, R 408.41526, R 408.41527, R 408.41530, R 408.41531, R.408.41540, R 408.41541, R 408.41542, R 408.41543, R 408.41550, R 408.41560, R 408.41561, R 408.41562, R 408.41563, R 408.41564, R 408.41570, R 408.41580, R 408.41590, and R 408.41595 of the Michigan Administrative Code are added, as follows:

PART 15. EXCAVATORS, HOISTS, ELEVATORS, HELICOPTERS, AND CONVEYORS

GENERAL PROVISIONS

R 408.41501 Scope.

Rule 1501. (1) This part applies to mobile hydraulic excavators, personnel hoists, material hoists, elevators, helicopters, conveyors, and variations of such equipment when used during construction operations.

(2) This part applies to equipment included in subrule (1) of this rule when used with any attachment, whether mechanically attached or suspended.

(3) These rules do not cover any of the following:

(a) Equipment included in Construction Safety Standard Part 10 “Cranes and Derricks,” as referenced in R 408.41505.

(b) Excavation equipment other than mobile hydraulic excavators, such as wheel loaders and backhoes. This equipment is covered in Construction Safety Standard Part 13 “Mobile Equipment,” as referenced in R 408.41505.

R 408.41505 Adopted and referenced standards.

Rule 1505. (1) The following standards are adopted by reference in these rules and are available from IHS Global, 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 as of the time of adoption of these rules, as stated in this subrule.

(a) Power Crane and Shovel Association (PCSA) standard No. 5 “Mobile Hydraulic Excavator Standards,” 1983 edition and “Referenced Material for PCSA Standards No. 4 and No. 5,” 1982 edition. Cost: \$25.00.

(b) American National Standards Institute (ANSI) standard A10.4 “Safety Requirements for Personnel Hoists and Employee Elevators for Construction and Demolition Operations,” 2004 edition. Cost: \$128.00.

(c) ANSI/American Society of Safety Engineers standard (ASSE) A10.5 “Safety Requirements for Material Hoists,” 1992 edition. Cost: \$69.00.

(d) ANSI/American Society of Mechanical Engineers (ASME) A17.1 “Safety Code for Elevators and Escalators, Includes Requirements for Elevators, Escalators, Dumbwaiters, Moving Walks, Material Lifts, and Dumbwaiters with Automatic Transfer Devices,” 1965 edition with addenda A17.1a-1967, A17.1b-1968, A17.1c-1969, and A17.1d-1970. Cost: \$281.00.

(e) ANSI/ASME A17.2 “Guide for Inspection of Elevators, Escalators, and Moving Walks - Includes Inspection Procedures for Electric Traction and Winding Drum Elevators, Hydraulic Elevators, Inclined Elevators, Private Residence Elevators, and Escalators and Moving Walks,” 1960 edition with addenda A17.2a-1965, and A17.2b-1967. Cost: \$96.00.

(f) ANSI B20.1, “Safety Standard for Conveyors, and Related Equipment,” 1999 edition. Cost: \$52.00.

(2) The standards adopted 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.

(3) Copies of the standards adopted 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, 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 (MIOSHA) 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, Lansing, Michigan, 48909-8143 or via the internet at: [www.michigan.gov/mioshastandards](http://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 10 “Cranes and Derricks,” R 408.41001 to R 408.41099a.

(b) Construction Safety Standard Part 13 “Mobile Equipment,” R 408.41301.

(c) Construction Safety Standard Part 18 “Fire Protection and Prevention,” R 408.41801 to R 408.41884.

(d) Construction Safety Standard Part 22 “Signals, Signs, Tags, and Barricades,” R 408.42201 to R 408.42243.

R 408.41510 Definitions; generally.

Rule 1510. (1) “Competent person” means a person who is trained, experienced, and capable of identifying existing or potential hazards in the surroundings or under working conditions that are unsanitary, hazardous, or dangerous to employees, and who has the authority to take prompt corrective measures to eliminate them.

(2) “Operator” means a person who is operating the equipment.

(3) "Power lines" means electric transmission and distribution lines.

(4) "Qualified person" means a person who, through attainment of a recognized degree or certificate of professional standing or by extensive knowledge, training, and experience, has successfully demonstrated the ability to solve or resolve problems relating to the subject matter and work.

R 408.41515 Power line clearances; generally.

Rule 1515. (1) When working in proximity to power lines, all equipment covered by this part shall maintain clearances as prescribed in Table A "Minimum Clearance Distances."

(2) When traveling with no load in proximity to power lines, all equipment covered by this part shall maintain clearances as prescribed in Table B "Minimum Clearance Distances While Traveling with No Load."

(3) The employer shall designate an employee to observe the clearance and give timely warning if it is difficult for the operator to maintain the prescribed clearance by visual means.

TABLE A MINIMUM CLEARANCE DISTANCES	
Voltage (nominal, kV, alternating current)	Minimum clearance distance (feet)
up to 50	10
over 50 to 200	15
over 200 to 350	20
over 350 to 500	25
over 500 to 750	35
over 750 to 1,000	45
over 1,000	(as established by the utility owner or operator or registered professional engineer who is a qualified person with respect to electrical power transmission and distribution)
Note: The value that follows "to" is up to and includes that value. For example, over 50 to 200 means up to and including 200kV.	

TABLE B MINIMUM CLEARANCE DISTANCES WHILE TRAVELING WITH NO LOAD	
Voltage (nominal, kV, alternating current)	Minimum clearance distance (feet) while traveling
Up to 0.75	4
Over .75 to 50	6
Over 50 to 345	10
Over 345 to 750	16
Over 750 to 1,000	20

Over 1,000	(as established by the utility owner or operator or registered professional engineer who is a qualified person with respect to electrical power transmission and distribution)
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## EXCAVATORS

### R 408.41520 Scope.

Rule 1520. This section applies to mobile hydraulic excavators when used during construction operations.

### R 408.41521 Definition.

Rule 1521. “Excavator”, for the purposes of this standard, means mobile hydraulic excavator, either crawler or rubber-tire mounted. An excavator is a self-propelled machine with an upper structure capable of continuous rotation and which digs, elevates, swings, and dumps material by action of the boom and arm or telescoping boom with bucket. Equipment that does not rotate 360 degrees, such as rubber-tired backhoe, is not considered to be an excavator.

### R 408.41522 Operator training.

Rule 1522. An employer shall assure that a prospective operator, before being assigned as an operator of an excavator, has been trained in all of the following areas:

- (a) The capabilities of equipment and attachments.
- (b) The purpose, use, and limitations of controls.
- (c) The making of daily inspections.

### R 408.41523 Inspection requirements.

Rule 1523. (1) A thorough, annual inspection of all excavators shall be made by a qualified person. An employer shall maintain, on the jobsite or attached to the equipment, a copy of the latest equipment inspection record with the date and results for each piece of equipment.

(2) The inspection procedure for excavators in regular service is divided into 2 general classifications based upon the intervals and inspection that should be performed. The intervals in turn are dependent upon the nature of the critical components of the excavator and the degree of their exposure to wear, deterioration, or malfunction. The 2 general classifications are designated in these rules as “frequent” and “periodic,” with respective intervals between inspections as follows:

- (a) Frequent inspection – daily to monthly intervals.
  - (b) Periodic inspection – 1 to 12-month intervals, or as specifically recommended by the manufacturer.
- (3) All of the following items on all boom-equipped excavators shall be inspected at frequent intervals:
- (a) All control mechanisms shall be inspected daily for maladjustment that interferes with proper operation.
  - (b) All control mechanisms shall be inspected daily for excessive wear of components and contamination by lubricants or other foreign matter.

R 408.41524 Fire protection.

Rule 1524. A portable fire extinguisher with a rating of not less than 10BC shall be kept in the cab or operating enclosure or within a 200-foot radius of the excavator.

R 408.41525 Hand signals.

Rule 1525. When using hand signals, the signal person, operator, or lift director shall use 1 of the following methods:

(a) Standard hand signals for excavators as shown in Appendix A.

(b) Non-standard hand signals. When used, the signal person, operator, and lift director, when there is one, shall contact each other prior to the operation and agree on the non-standard hand signals that will be used.

R 408.41526 Operations.

Rule 1526. (1) An operator shall not leave an excavator unattended with the boom or load suspended above the ground, floor, or platform during working operations. The operator shall not leave a bucket or blade suspended above the ground when a machine is unattended.

(2) Windows of an excavator shall be equipped with safety glass or its equivalent. Visual distortions that are caused by broken or defective glass and which would affect the safe operation of the equipment when in use shall be corrected.

(3) An employee shall not be permitted under a suspended load.

(4) The boom or bucket shall not be used for hoisting or transporting employees.

(5) An excavator shall not be loaded beyond the rated load.

(6) Hooks that are attached to the bucket or boom that are used for hoisting material shall be equipped with self-closing latches or their equivalent where employees are exposed.

(7) Materials being hoisted shall be rigged to prevent unintentional displacement.

(8) A load shall not be moved in a manner that could contact obstructions.

(9) An employer shall comply with the requirements of the Power Crane and Shovel Association (PCSA) standard No. 5 “Mobile Hydraulic Excavator Standards,” 1983 edition and “Referenced Material for PCSA Standards No. 4 and No. 5”, 1982 edition as adopted in R 408.41505.

R 408.41527 Pinch point and struck by protection.

Rule 1527. If an employee could be struck by the rotating superstructure of an excavator or if clearances between the rotating or moving structure of an excavator can create a pinch point for an employee, the employer shall do either of the following:

(a) Barricade the hazardous area.

(b) Train and instruct each employee to stay out of the danger area and require a danger sign, as prescribed in Construction Safety Standard Part 22 “Signals, Signs, Tags, and Barricades,” as referenced in R 408.41505, be affixed to the rear and sides of the house and counterweight. The danger sign shall have additional lettering to indicate that the counterweight is swinging.

## HOISTS AND ELEVATORS

R 408.41530 Scope; material hoists, personnel hoists, and elevators.

Rule 1530. This section applies to material hoists, personnel hoists, and elevators when used during construction operations.

R 408.41531 Definitions.

Rule 1531. (1) "Audible signal" means a signal made by a distinct sound or series of sounds. Examples include, but are not limited to, sounds made by a bell, horn, or whistle.

(2) "Base" means the mounting flanges or feet for attachment of a hoist to the machine's supporting structure or foundation.

(3) "Base-mounted drum hoist" means a self-contained lifting unit that has a motor, a drum to receive the lifting cable, and mounting flanges for anchoring.

(4) "Crosshead" means an overhead structural member that supports the hoist platform to which the hoisting or load cables are attached.

(5) "Elevator" means, for the purposes of this standard, a permanently installed or existing passenger or freight elevator used for construction operations.

(6) "Hoist" means a system of power driven drums, gears, cables, chains, or hydraulic cylinders capable of lifting and lowering loads.

(7) "Hoist car" means the load-carrying unit, including its platform, car frame, car enclosure, and car door or gate.

(8) "Hoist tower" means a vertical structure used to support or house the platform and cab of an elevator or hoist.

(9) "Hoisting" means the act of raising, lowering, or otherwise moving a load in the air with equipment covered by this standard. As used in this standard, "hoisting" can be done by means other than wire rope/hoist drum equipment.

(10) "Lockout device" means a positive mechanical method for disconnecting the power supply.

(11) "Material hoist" means a mechanism for use in the hoisting or lowering of construction or demolition material only. A material hoist is equipped with a platform, car, cage, or bucket that moves vertically on guide members.

(12) "Personnel hoist" means a mechanism and its hoistway that is used for raising or lowering personnel or materials, or both, during construction operations, and is equipped with a car that moves vertically on guide members.

(13) "Rated load" for material hoists, personnel hoists, and elevators means the maximum load permitted by the manufacturer's specifications and by sections 1 to 24 of 1967 PA 227, MCL 408.821 to 408.824, and sections 1 to 10 of 1976 PA 333, MCL 338.2151 to 338.2160, respectively.

(14) "Running rope" means a rope that travels around sheaves or drums.

(15) "Signal system" means an audible or visual method of communication between the equipment operator and the persons on the landing or floors.

(16) "Standing rope" including guy rope, means a supporting rope that maintains a constant distance between the points of attachment to the 2 components connected by the rope.

(17) "Tie-in" means a rigid device used to affix the hoist tower to the structure.

(18) "Wire rope" means a flexible rope constructed by laying steel wires into various patterns of multi-wired strands around a core system to produce a helically wound rope.

## GENERAL REQUIREMENTS FOR MATERIAL HOISTS, PERSONNEL HOISTS, AND ELEVATORS

R 408.41540 Operator training and conduct.

Rule 1540. (1) An employer shall limit the operation of material hoists, personnel hoists, and elevators to the following entities:

- (a) An employee who has been trained and qualified to operate the hoisting equipment to which the employee is assigned.
- (b) Authorized maintenance personnel when performing their duties.
- (2) Before assignment, an employer shall assure that an operator of a material and personnel hoist has been trained in all of the following areas:
  - (a) The capabilities of the equipment.
  - (b) The purpose, use, and limitations of the controls.
  - (c) How to conduct daily inspections.
  - (d) Operational practices of the assigned equipment through its functions necessary to perform the required job.
  - (e) Applicable state standards and company rules and regulations.
- (3) An operator shall not engage in any practice that will divert his or her attention while engaged in operating a material hoist, personnel hoist, or elevator.
- (4) Each operator shall be responsible for those operations under the operator's direct control. When there is any doubt as to safety, the operator shall stop operations and consult with the supervisor before continuing work.
- (5) An operator shall not leave the equipment unattended unless it has been secured and rendered inoperable in the operator's absence.
- (6) When controls are locked out for maintenance or for repair purposes, an equipment operator shall not start operations until the lock has been removed by the person or persons responsible for the safe operation.
- (7) If a malfunction occurs during the operation of the equipment and the door remains locked, the operator and all other personnel shall remain in the hoist car until the operation is restored.
- (8) An operator shall be familiar with the equipment and its proper care. If adjustments or repairs are necessary or if any defects are evident, the operator shall report the repairs or defects to the responsible supervisor and also notify the next operator of the equipment status.
- (9) A hoist operator shall ensure that the rated capacity of the hoist is not exceeded.

R 408.41541 Signaling.

Rule 15341. (1) A signal system shall be established and communicated to all affected employees prior to hoisting operations.

- (2) The signal system shall be posted at the operator station of the hoist.

R 408.41542 Wire rope.

Rule 1542. (1) Wire rope used for material hoists, personnel hoists, and elevators shall be removed from service when any of the following conditions exists:

- (a) In hoisting ropes and running ropes, 6 randomly distributed broken wires in 1 rope lay or 3 broken wires in 1 strand in 1 rope lay.
- (b) Abrasion, scrubbing, flattening, peening, kinking, crushing, bird caging, or any other damage resulting in distortion of the rope structure and causing loss of more than 1/3 of the original diameter of the outside wires.
- (c) Evidence of any heat damage from any cause, including damage resulting from a torch or any damage caused by contact with electrical wires.
- (d) Reduction from nominal diameter of more than 3/64 inch for diameters up to and including 3/4 inch; 1/16 inch for diameters 7/8 to 1-1/8 inches; and 3/32 inch for diameters 1-1/4 to 1-1/2 inches.
- (e) In standing ropes, more than 2 broken wires in 1 lay in sections beyond end connections or more than 1 broken wire at an end connection.

(2) Hoisting ropes shall be installed in accordance with the wire rope manufacturers' recommendations.

(3) A wire rope shall be in compliance with all of the following requirements:

(a) The minimum number of hoisting ropes used shall be 3 for traction hoists and 2 for drum-type hoists.

(b) The minimum diameter of hoisting and counterweight wire ropes shall be 1/2-inch.

(c) Not less than 2 ropes shall be used for the counterweights on the rack and pinion.

(d) Safety factors shall be as in Table C “Minimum Factors of Safety for Suspension Wire Ropes”.

(e) The following formula shall be used to calculate the allowable gross load:

$$L = \frac{SN}{F}$$

L = Allowable gross load

S = Manufacturer's rated breaking strength

N = Number of parts of rope

F = Safety factor

TABLE C MINIMUM FACTORS OF SAFETY FOR SUSPENSION WIRE ROPES	
Rope speed in feet per minute	Minimum Factor of safety
50	7.60
75	7.75
100	7.95
125	8.10
150	8.25
175	8.40
200	8.60
225	8.75
250	8.90
300	9.20
350	9.50
400	9.75
450	10.00
500	10.25
550	10.45
600	10.70

R 408.41543 Manufacturer specifications; rated load; safety devices; postings.

Rule 1543. (1) An employer shall comply with the manufacturer's specifications and limitations applicable to the operation of all material hoists and personnel hoists. If the manufacturer's specifications are not available, then the limitations assigned to the equipment shall be determined by a qualified person who is competent in the field and shall be based on the requirements of ANSI A10.4 "Safety Requirements for Personnel Hoists and Employee Elevators for Construction and Demolition operations," 2004 edition and ANSI A10.5 "Safety Requirements for Material Hoists," 1992 edition, as adopted by reference in R 408.41505. A determination shall be documented and recorded.

(2) Attachments used shall not exceed the capacity, rating, or scope recommended by the manufacturer.

(3) The rated load capacities, recommended operating speeds, and special hazard warnings or instructions shall be posted on hoist cars.

(4) Safety devices shall not be altered or bypassed unless under the direct supervision of a qualified person.

(5) The installation of live booms on hoists is prohibited.

(6) An employer shall ensure that hoisting equipment and accessories are maintained in a condition that will not endanger an operator or other employees.

#### MATERIAL HOISTS – ADDITIONAL REQUIREMENTS

R 408.41550 Material hoist requirements.

Rule 1550. (1) The material hoist requirements contained in this rule are in addition to the general requirements contained in R 408.41540 to R 408.41543.

(2) An employer shall ensure that operating rules are established and posted at the operator's station of the hoist. Such rules shall include signal system and allowable line speed for various loads. Rules and notices shall be posted on the car frame or crosshead in a conspicuous location, including the statement "No Riders Allowed."

(3) A person shall not be allowed to ride on a material hoist, except for inspection and maintenance.

(4) An overhead protective covering of 2-inch planking or other solid material of equivalent strength shall be provided on the top of every material hoist car.

(5) All entrances of the hoistway shall be protected by substantial gates or bars that shall guard the full width of the landing entrance from floor to ceiling. All hoistway entrance bars and gates shall be painted with diagonal contrasting colors, such as black and yellow stripes.

(6) Gates or bars protecting the entrance to a hoistway shall be equipped with a latching device and be not more than 4 inches from the edge of the landing sill. A gate shall extend a minimum of 6 feet 8 inches above the floor.

(7) An operator's station of a hoisting machine shall have overhead protection equivalent to tight planking that is not less than 2 inches thick. The support for the overhead protection shall be of equal strength.

(8) A hoist tower may be used with or without enclosures on all sides. However, whichever alternative is chosen, all of the following applicable conditions shall be met:

(a) When a hoist tower is enclosed, it shall be enclosed on all sides for its entire height with a screen enclosure of not more than 1/2-inch mesh of no. 18 U.S. gauge wire or equivalent, except for a landing access.

(b) When a hoist tower is not enclosed, the hoist platform, car, or cab shall be totally enclosed or caged on all sides for the full height between the floor and the overhead protective covering

with 1/2-inch mesh of no. 14 U.S. gauge wire or equivalent. The hoist car enclosure shall include the required gates for loading and unloading. An 8-foot high enclosure shall be provided on the unused sides of the hoist tower at ground level.

(9) Car arresting devices shall be installed to function in case of rope failure and shall be tested at 90-day intervals.

(10) All material hoist towers shall be designed by a licensed professional engineer.

(11) All material hoists shall conform to the requirements of ANSI/ASSE A10.5 "Safety Requirements for Material Hoists," 1992 edition, as adopted in R 408.41505.

## PERSONNEL HOISTS AND ELEVATORS - ADDITIONAL REQUIREMENTS

R 408.41560 Personnel hoist and elevator requirements.

Rule 1560. (1) The personnel hoist requirements contained in this rule to R 408.41564 "Elevators; endless belt-type manlifts" are in addition to the general requirements contained in R 408.41540 "Operator training and conduct" through R 408.41543 "Manufacturer specifications; rated load; safety devices; postings."

(2) An employer shall ensure that an employee who is specifically engaged in installing personnel hoists or elevators is licensed by the state of Michigan in accordance with sections 1 to 24 of 1967 PA 227, MCL 408.801 to 408.824, and sections 1 to 10 of 1976 PA 333, MCL 338.2151 to 338.2160, respectively, and the rules of the department of licensing and regulatory affairs relating to elevators.

R 408.41561 Inspections and testing.

Rule 1561. (1) An inspection and test of all functions and safety devices of personnel hoists and elevators shall be made by a person who meets the criteria of both a competent and qualified person, or a competent person who is assisted by 1 or more qualified persons as prescribed by the following:

- (a) Before being put into service.
- (b) Following a major alteration of an existing installation.
- (c) At not more than 90-day intervals.

(2) An employer shall prepare a certification record that includes all of the following information:

- (a) The date of the inspection and test of all functions and safety devices that were performed.
- (b) The signature of the person who performed the inspection and tests.
- (c) A serial number or other identifier for the hoist that was inspected and tested. The most recent certification record shall be maintained on file on the jobsite.

(3) In addition to the requirements in subrule (1) of this rule, personnel hoists and elevators shall have a load safety test performed by a licensed elevator contractor in the presence of a State of Michigan elevator inspector every 90 days as required by ANSI A10.4 "Safety Requirements for Personnel Hoists and Employee Elevators for Construction and Demolition Operations," 2004 edition, as adopted by reference in R 408.41003a.

(4) All control mechanisms shall be inspected daily for misadjustments that might interfere with proper operation and for excessive wear of components.

R 408.41562 General requirements.

Rule 1562. (1) A hoist tower outside the structure shall be enclosed for the full height on the side or sides used to enter and exit the structure. At the lowest landing, the enclosure on the sides not

used to exit or enter the structure shall be enclosed to a height of not less than 10 feet. Other sides of the tower adjacent to floors or scaffold platforms shall be enclosed to a height of 10 feet above the level of the floors or scaffolds.

(2) A hoistway inside a structure shall be enclosed on all 4 sides throughout the full travel of the hoistway.

(3) A hoist tower shall be anchored to the structure at intervals of not more than 25 feet in height. When tie-ins are not practical, the tower shall be anchored by means of guys which are made of wire rope that is not less than 1/2 of an inch in diameter and which are securely fastened to the anchorage to ensure stability.

(4) Hoistway doors or gates shall be not less than 6 feet 6 inches high, be provided with mechanical locks that cannot be operated from the landing side, and be accessible only to persons on the hoist car.

(5) A hoist car shall be permanently enclosed on all sides and the top, except for sides used for entry and exit and sides that have gates or doors.

(6) A door or gate shall be provided at each entrance to the hoist car and shall protect the full width and height of the hoist car entrance opening.

(7) An overhead protective covering that consists of 2-inch planking or other solid material of equivalent strength shall be provided on the top of every personnel hoist car.

(8) Doors or gates shall have electric contacts that do not allow movement of the hoist when a door or gate is open.

(9) A car safety device shall be installed and shall be capable of stopping and holding the hoist car and the rated load when traveling at governor-tripping speed.

(10) A hoist car shall have a capacity and data plate secured in a conspicuous place on the car or crosshead.

(11) Internal combustion engines shall not be permitted for direct drive.

(12) Normal and final terminal stopping devices shall be provided. Final terminal stopping devices shall be installed in the hoistway and shall be mechanically operated.

(13) An emergency stop switch shall be provided in the hoist car and marked "STOP."

(14) All personnel hoists used by employees shall be constructed of materials and components that are in compliance with the specifications for materials, construction, safety devices, assembly, and structural integrity as stated in ANSI standard A10.4 "Safety Requirements for Personnel Hoists and Employee elevators for Construction and Demolition Operations," 2004 edition, as adopted in R 408.41505.

R 408.41563 Bridge tower construction personnel hoists.

Rule 1563. (1) A personnel hoist that is used in bridge tower construction shall be approved by a registered professional engineer and installed in accordance with R 408.41560(2).

(2) When a hoist tower is not enclosed, the car or hoist platform shall be totally enclosed or caged on all sides for the full height between the floor and the overhead protective covering with not less than 3/4-inch mesh of no. 14 U.S. gauge wire or equivalent. The hoist car enclosure shall include the required gates for loading and unloading.

(3) An employer shall ensure that hoists are inspected for defects, serviced, and maintained on a weekly basis, and repaired as necessary. If the hoisting equipment is exposed to winds of more than 35 miles per hour, authorized personnel must inspect and repair the hoisting equipment if necessary before reuse.

R 408.41564 Elevators; endless belt-type manlifts.

Rule 1564. (1) Permanent elevators under the care and custody of the employer and used by employees for work covered by this act shall comply with the requirements of ANSI/ASME A17.1 “Safety Code for Elevators and Escalators, Includes Requirements for Elevators, Escalators, Dumbwaiters, Moving Walks, Material Lifts, and Dumbwaiters with Automatic Transfer Devices,” 1965 edition with addenda A17.1a-1967, A17.1b-1968, A17.1c-1969, and A17.1d-1970, and inspected in accordance with ANSI/ASME A17.2 “Guide for Inspection of Elevators, Escalators, and Moving Walks - Includes Inspection Procedures for Electric Traction and Winding Drum Elevators, Hydraulic Elevators, Inclined Elevators, Private Residence Elevators, and Escalators and Moving Walks,” 1960 edition with addenda A17.2a-1965, and A17.2b-1967, as adopted in R 408.41505.

(2) When multiple permanent elevators are available and 1 elevator is being used for construction or renovation purposes, that elevator shall be for the exclusive use of construction personnel and shall be operated by a designated operator. The elevator signal system shall be separate from any other elevators.

(3) The use of endless belt-type manlifts for construction is prohibited.

#### BASE-MOUNTED DRUM HOISTS

R 408.41570 Base-mounted drum hoists; general requirements.

Rule 1570. (1) Exposed moving parts, such as gears, projecting screws, setscrews, chain, cables, chain sprockets, and reciprocating or rotating parts, which constitute a hazard, shall be guarded.

(2) All controls used during the normal operation cycle shall be located within easy reach of the operator's station.

(3) An employer shall ensure that electric motor operated hoists are provided with all of the following:

(a) A device to disconnect all motors from the line upon power failure and not permit any motor to be restarted until the controller handle is brought to the "off" position.

(b) Where applicable, an overspeed preventive device.

(c) A means whereby remotely operated hoists stop when any control is ineffective.

(4) All base-mounted drum hoists in use shall meet the applicable requirements for design, construction, installation, testing, inspection, maintenance, and operations, as prescribed by the manufacturer.

(5) This rule does not apply to base-mounted drum hoists used in conjunction with derricks. Base-mounted drum hoists used in conjunction with derricks shall conform to Construction Safety Standard Part 10 “Cranes and Derricks,” as referenced in R 408.41505.

#### OVERHEAD HOISTS

R 408.41580 Overhead hoists; general requirements.

Rule 1580. (1) The safe working load of the overhead hoist, as determined by the manufacturer, shall be indicated on the hoist and shall not be exceeded.

(2) The supporting structure to which the hoist is attached shall have a safe working load equal to the working load of the hoist.

(3) The support shall be arranged so as to provide for free movement of the hoist and shall not restrict the hoist from lining itself up with the load.

(4) The hoist shall be installed only in locations that will permit the operator to stand clear of the load at all times.

(5) Air hoists shall be connected to an air supply of sufficient capacity and pressure to safely operate the hoist. All air hoses supplying air shall be positively connected to prevent the air hose becoming disconnected during use.

(6) All overhead hoists in use shall meet the applicable requirements for construction, design, installation, testing, inspection, maintenance, and operation, as prescribed by the manufacturer.

## HELICOPTERS

R 408.41590 Helicopters; general requirements.

Rule 1590. (1) This rule applies to helicopters used during construction operations.

(2) Helicopter cranes must comply with any applicable regulations of the federal aviation administration.

(3) Prior to each day's operation a briefing shall be conducted by the pilot, ground crew, general contractor overseeing the work, and any sub-contractors involved. This briefing shall set forth the plan of operation for the pilot and ground personnel.

(4) A load shall be properly slung. Tag lines shall be of a length that will not permit the tag line being drawn up into rotors. Pressed sleeve, swedged eyes, or equivalent means shall be used for all freely suspended loads to prevent hand splices from spinning open or cable clamps from loosening.

(5) All electrically operated cargo hooks shall have the electrical activating device so designed and installed as to prevent inadvertent operation. In addition these cargo hooks shall be equipped with an emergency mechanical control for releasing the load. The hooks shall be tested prior to each day's operation by the helicopters employees, pilot, or mechanic, to determine that the release functions properly both electrically and mechanically.

(6) Personal protective equipment shall meet the following requirements:

(a) Personal protective equipment for employees receiving the load shall consist of complete eye protection and hard hats secured by chinstraps.

(b) An employee shall not wear loose-fitting clothing likely to flap in the downwash, and thus be snagged on hoist line.

(7) An employer shall ensure that every practical precaution is taken to provide for the protection of the employees from flying objects in the rotor downwash. All loose gear within 100 feet of the place of lifting the load, depositing the load, and all other areas susceptible to rotor downwash shall be secured or removed.

(8) An employer shall ensure that good housekeeping shall be maintained in all helicopter loading and unloading areas.

(9) The helicopter operator shall be responsible for size, weight, and manner in which loads are connected to the helicopter. If, for any reason, the helicopter operator believes the lift cannot be made safely, the lift shall not be made.

(10) When employees are required to perform work under hovering craft, a safe means of access shall be provided for employees to reach the hoist line hook and engage or disengage cargo slings. Employees shall not perform work under hovering craft except when necessary to hook or unhook loads.

(11) Static charge on the suspended load shall be dissipated with a grounding device before ground personnel touch the suspended load, or protective rubber gloves shall be worn by all ground personnel touching the suspended load.

(12) The weight of an external load shall not exceed the manufacturer's rating.

(13) Hoist wires or other gear, except for container or roll off a reel, shall not be attached to any fixed ground structure, or allowed to foul on any fixed structure.

(14) When visibility is reduced by dust or other conditions, ground personnel shall exercise special caution to keep clear of main and stabilizing rotors. An employer shall take precautions to eliminate as far as practical reduced visibility.

(15) Signal systems between aircrew and ground personnel shall be understood and checked in advance of hoisting the load. This requirement applies to either radio or hand signal systems. When using hand signals, either of the following methods shall be used:

(a) Standard helicopter hand signals as shown in Appendix B.

(b) Non-standard hand signals. When used, the signal person, operator, and lift director, when there is one, shall contact each other prior to the operation and agree on the non-standard hand signals that will be used.

(16) No unauthorized person shall be allowed to approach within 50 feet of the helicopter when the rotor blades are turning.

(17) Whenever approaching or leaving a helicopter with blades rotating, all employees shall remain in full view of the pilot and keep in a crouched position. Employees shall avoid the area from the cockpit or cabin rearward unless authorized by the helicopter operator to work in the area.

(18) An employer shall ensure that sufficient ground personnel are provided when required for safe helicopter loading and unloading operations.

(19) There shall be constant reliable communication between the pilot and a designated employee of the ground crew who acts as a signalman during the period of loading and unloading. This signalman shall be distinctly recognizable from other ground personnel.

(20) Open fires shall not be permitted in an area that could result in such fires being spread by the rotor downwash.

## CONVEYORS

R 408.41595 Conveyors; general requirements.

Rule 1595. (1) This rule applies to conveyors when used during construction operations.

(2) Means for stopping the motor or engine shall be provided at the operator's station. Conveyor systems shall be equipped with an audible warning signal to be sounded immediately before starting up the conveyor.

(3) If the operator's station is at a remote point, the employer shall provide similar provisions for stopping the motor or engine at the motor or engine location.

(4) Emergency stop switches shall be arranged so that the conveyor cannot be started again until the actuating stop switch has been reset to running or "on" position.

(5) Screw conveyors shall be guarded to prevent employee contact with turning flights.

(6) Where a conveyor passes over work areas, aisles, or thoroughfares, the employer shall provide suitable guards to protect employees required to work below the conveyors.

(7) The employer shall ensure that all crossovers, aisles, and passageways are conspicuously marked by suitable signs, as required by Construction Safety Standard Part 22 "Signals, Signs, Tags, and Barricades," as referenced in R 408.41505.

(8) The employer shall ensure that conveyors are locked out or otherwise rendered inoperable, and tagged out with a "DO NOT OPERATE" tag during repairs and when operation is hazardous to employees performing maintenance work.

(9) All conveyors in use shall meet the applicable requirements for design, construction, inspection, testing, maintenance, and operation, as prescribed in the ANSI B20.1, “Safety Standard for Conveyors, and Related Equipment,” 1999 edition, as adopted in R 408.41505.

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**ADMINISTRATIVE RULES**

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DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS

DIRECTOR’S OFFICE

CONSTRUCTION SAFETY STANDARDS

Filed with the Secretary of State on March 15, 2016

These rules become effective immediately upon filing with the Secretary of State unless adopted under section 33, 44, or 45a(6) 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 director of the department of licensing and regulatory affairs by sections 19 and 21 of 1974 PA 154, MCL 408.1019 and 408.1021 and Executive Reorganization Order Nos. 1996-2, 2003-1, 2008-4, and 2011-4, MCL 445.2001, 445.2011, 445.2025, and 445.2030)

R 408.41003a and R 408.41006a of the Michigan Administrative Code are amended, and R 408.41001, R 408.41003, R 408.41003b, R 408.41003c, R 408.41003d, R 408.41003e, R 408.41006, , R 408.41006b, R 408.41006c, R 408.41006d, R 408.41006e, R 408.41007, R 408.41035, R 408.41035a, R 408.41035b, R 408.41035c, R 408.41035d, R 408.41036, R 408.41036a, R 408.41036b, R 408.41036c, R 408.41036d, R 408.41037, R 408.41037a, R 408.41037b, R 408.41037c, R 408.41037d, R 408.41037e, R 408.41037f, R 408.41038, R 408.41038a, R 408.41038b, R 408.41038c, R 408.41039, R 408.41039a, R 408.41039b, R 408.41040, R 408.41052, R 408.41052a, R 408.41052b, R 408.41053, R 408.41053a, R 408.41053b, R 408.41053c, R 408.41053d, R 408.41053e, R 408.41053f, R 408.41053g, R 408.41054, R 408.41055, R 408.41055a, R 408.41055b, R 408.41055c, R 408.41056, R 408.41056a, R 408.41056b, R 408.41056c, R 408.41056d, R 408.41056e, R 408.41056f, R 408.41056g, R 408.41056h, R 408.41056i, R 408.41057, R 408.41058, R 408.41060, R 408.41060a, R 408.41060b, R 408.41060c, R 408.41061, R 408.41061a, R 408.41061b, R 408.41061c, R 408.41061d, R 408.41061e, R 408.41061f, R 408.41061g, R 408.41062, R 408.41063, R 408.41064, R 408.41080, R 408.41080a, R 408.41080b, R 408.41080c, R 408.41080d, R 408.41080e, R 408.41080f, R 408.41080g, R 408.41080h, R 408.41080i, R 408.41080j, R 408.41080k, R 408.41080l, R 408.41080m, R 408.41080n, R 408.41080o, R 408.41081, R 408.41082, R 408.41082a, R 408.41082b, R 408.41082c, R 408.41082d, R 408.41082e, R 408.41082f, R 408.41082g, R 408.41083, R 408.41084, R 408.41084a, R 408.41084b, R 408.41084c, R 408.41084d, R 408.41084e, R 408.41084f, R 408.41085, R 408.41085a, R 408.41085b, R 408.41085c, R 408.41085d, R 408.41085e, R 408.41085f, R 408.41085g, R 408.41085h, R 408.41086, R 408.41086a, R 408.41086b, R 408.41086c, R 408.41086d, R 408.41086e, R 408.41086f, R 408.41086g, R 408.41087, R 408.41088, R 408.41089, R 408.41090, R 408.41090a, R 408.41090b, R 408.41090c, R 408.41090d, and R 408.41090e, are added, and R 408.41001a, R 408.41004a, R 408.41005a, R 408.41008a, R 408.41009a, R 408.41009b, R 408.41011a, R 408.41011b, R 408.41011c, R 408.41011d, R 408.41011e, R 408.41012a, R 408.41013a, R 408.41014a, R 408.41015a, R 408.41016a,

R 408.41016b, R 408.41016c, R 408.41016d, R 408.41016e, R 408.41017a, R 408.41018a, R 408.41019a, R 408.41019b, R 408.41019c, R 408.41020a, R 408.41021a, R 408.41021b, R 408.41022a, R 408.41023a, R 408.41024a, R 408.41025a, R 408.41025b, R 408.41026a, R 408.41027a, R 408.41028a, R 408.41029a, R 408.41030a, R 408.41031a, R 408.41032a, R 408.41033a, R 408.41034a, R 408.41041a, R 408.41051a, R 408.41065a, R 408.41066a, R 408.41067a, R 408.41068a, R 408.41069a, R 408.41070a, R 408.41070b, R 408.41071a, R 408.41072a, R 408.41073a, R 408.41074a, and R 408.41075a, are rescinded, as follows:

## PART 10. CRANES AND DERRICKS

### SCOPE

#### R 408.41001 Scope.

Rule 1001. (1) This standard applies to power operated equipment, when used in construction that can hoist, lower, and horizontally move a suspended load. Such equipment includes, but is not limited to, any of the following:

- (a) Articulating cranes, such as knuckle-boom cranes.
- (b) Crawler cranes.
- (c) Floating cranes.
- (d) Cranes on barges.
- (e) Locomotive cranes.
- (f) Mobile cranes, such as wheel-mounted, rough-terrain, all-terrain, commercial truck mounted, and boom truck cranes.
- (g) Multi-purpose machines when configured to hoist and lower by means of a winch and hook and horizontally move a suspended load.
- (h) Industrial cranes, such as carrydeck cranes.
- (i) Dedicated pile drivers.
- (j) Service/mechanic trucks with a hoisting device.
- (k) Crane on a monorail.
- (l) Tower cranes, such as a fixed jib, for example, “hammerhead boom”, luffing boom, and self-erecting.
- (m) Pedestal cranes.
- (n) Portal cranes.
- (o) Overhead and gantry cranes.
- (p) Straddle cranes.
- (q) Sideboom cranes.
- (r) Derricks.
- (s) Variations of equipment listed in subdivisions (a) to (r) of this subrule. Items listed in subrule (3) of this rule are excluded from the scope of this standard.

(2) Attachments. This standard applies to equipment included in subrule (1) of this rule when used with attachments. These attachments, whether crane-attached or suspended include, but are not limited to, any of the following:

- (a) Hooks.
- (b) Magnets.
- (c) Grapples.
- (d) Clamshell buckets.
- (e) Orange peel buckets.
- (f) Concrete buckets.

- (g) Drag lines.
- (h) Personnel platforms.
- (i) Augers or drills.
- (j) Pile driving equipment.
- (3) Exclusions. This standard does not cover any of the following:
  - (a) Machinery included in subrule (1) of this rule while it has been converted or adapted for a non-hoisting or lifting use. These conversions or adaptations include, but are not limited to, any of the following:
    - (i) Power shovels.
    - (ii) Excavators.
    - (iii) Concrete pumps.
  - (b) The following machinery is excluded when used with chains, slings, or other rigging to lift suspended loads:
    - (i) Power shovels.
    - (ii) Excavators.
    - (iii) Wheel loaders.
    - (iv) Backhoes.
    - (v) Loader backhoes.
    - (vi) Track loaders.
  - (c) Automotive wreckers and tow trucks when used to clear wrecks and haul vehicles.
  - (d) Digger derricks when used for augering holes for poles carrying electric and telecommunication lines, placing and removing the poles, and for handling associated materials to be installed on or removed from the poles. Digger derricks used in work subject to Construction Safety Standard Part 16 “Power Transmission and Distribution,” must comply with General Industry Safety Standard Part 86 “Electric Power Generation, Transmission and Distribution.” Digger derricks used in construction work for telecommunication service, as defined in and must comply with Construction Safety Standard Part 30 “Telecommunications.” These standards are referenced in R 408.41003e.
  - (e) Machinery originally designed as vehicle-mounted aerial devices for lifting personnel and self-propelled elevating work platforms.
  - (f) Telescopic or hydraulic gantry systems.
  - (g) Stacker cranes.
  - (h) Powered industrial trucks, for example, forklifts, except when configured to hoist and lower by means of a winch or hook and horizontally move a suspended load.
  - (i) Mechanic’s truck with a hoisting device when used in activities related to equipment maintenance and repair.
  - (j) Machinery that hoists by using a come-a-long or chainfall.
  - (k) Dedicated drilling rigs.
  - (l) Gin poles when used for the erection of communication towers.
  - (m) Tree trimming and tree removal work.
  - (n) Anchor handling or dredge-related operations with a vessel or barge using an affixed A-frame.
  - (o) Roustabouts.
  - (p) Material delivery under the following conditions:
    - (i) Articulating knuckle-boom truck cranes that deliver material to a construction site when used to transfer materials from the truck crane to the ground, without arranging the materials in a particular sequence for hoisting.

(ii) Articulating or knuckle-boom truck cranes that deliver material to a construction site when the crane is used to transfer building supply sheet goods or building supply packaged materials from the truck crane onto a structure, using a fork or cradle at the end of the boom, but only when the truck crane is equipped with a properly functioning automatic overload prevention device. These sheet goods or packaged materials include, but are not limited to: sheets of sheet rock, sheets of plywood, bags of cement, sheets or packages of roofing shingles, and rolls of roofing felt.

(iii) The exclusion in this subdivision shall not apply when used under the following circumstances:

(A) The articulating or knuckle-boom crane is used to hold, support or stabilize the material to facilitate a construction activity, such as holding material in place while it is attached to the structure.

(B) The material being handled by the articulating knuckle-boom crane is a prefabricated component. Prefabricated components include, but are not limited to, precast concrete members or panels, roof trusses constructed of wood, cold formed metal, steel, or other materials, prefabricated building sections such as, but not limited to, floor panels, wall panels, roof panels, roof structures, or similar items.

(C) The material being handled by the crane is a structural steel member, for example, steel joists, beams, columns, bundled or unbundled steel decking or a component of a systems-engineered metal building, as defined in Construction Safety Standard Part 26 “Steel Erection,” as referenced in R 408.41003e.

(D) The activity is not specifically excluded under R 408.41001(3)(p)(i) and (ii).

(4) This part applies to the equipment covered by this standard unless specified otherwise.

(5) The duties of controlling entities under this standard include, but are not limited to, the duties specified in R 408.41007(2) and (4), and R 408.41057(4).

(6) Where provisions of this standard direct an operator, crewmember, or other employee to take certain actions, the employer must establish effective communication to the relevant persons, and enforce work rules to ensure compliance with such provisions.

(7) For work covered by Construction Safety Standard Part 16 “Power Transmission and Distribution,” in compliance with General Industry Safety Standard Part 86 “Electric Power Generation, Transmission and Distribution” rule 1910.269(p) is deemed in compliance with R 408.41036 to R 408.41036d. These standards are referenced in R 408.41003e.

(8) R 408.41007 does not apply to cranes designed for use on railroad tracks, when used on railroad tracks that are part of the general railroad system of transportation that is regulated under the Federal Railroad Administration under 49 CFR part 213, as adopted in R 408.41003f, and that comply with applicable Federal Railroad Administration requirements. See R 408.41007(5).

R 408.41001a Rescinded.

## ADOPTED AND REFERENCED STANDARDS

R 408.41003 Adopted Standards.

Rule 1003. (1) The standards adopted 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.

(2) Copies of the standards adopted 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, Lansing, Michigan, 48909-8143, at the cost stated in these rules, plus \$20.00 for shipping and handling.

R 408.41003a Adopted standards from IHS Global.

Rule 1003a. The following standards are adopted by reference in these rules and are available from IHS Global, 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 as of the time of adoption of these rules, as stated in this subrule.

(a) ANSI/ American Society of Mechanical Engineers (ASME) standard B30.5 “Mobile and Locomotive Cranes,” 1994 edition. Cost: \$119.00.

(b) ANSI/ASME standard B30.5 “Mobile and Locomotive Cranes,” 2004 edition. Cost:\$60.00.

(c) ASME standard B30.14 “Side Boom Tractors,” 2004 edition. Cost: \$64.00.

(d) ASME standard B30.2 “Overhead and Gantry Cranes (Top Running Bridge, Single or Multiple Girder, Top Running Trolley Hoist),” 2005 edition. Cost: \$63.00.

(e) ASME standard B30.7 “Base Mounted Drum Hoists,” 2001 edition. Cost: \$60.00.

(f) AWS standard D1.1/D1.1M “Structural Welding Code – Steel Updates Every 5 Years,” 2002 edition. Cost: \$468.00.

(g) AWS standard D14.3 “Specification for Welding Earthmoving and Construction Equipment,” 1994 edition. Cost: \$109.00.

(h) International Organization for Standardization (ISO) standard 11660–1 “Cranes – Access, Guards and Restraints – Part 1: General,” 2008 edition. Cost: \$139.00.

(i) ISO standard 11660–2 “Cranes – Access, Guards and Restraints – Part 2: Mobile Cranes,” 1994 edition. Cost: \$107.00.

(j) ISO standard 11660–3 “Cranes – Access, Guards and Restraints – Part 3: Tower Cranes,” 2008 edition. Cost: \$65.00.

(k) Society of Automotive Engineers (SAE) standard J185, “Access Systems for Off- Road Machines,” May 2003 edition. Cost: \$73.00.

(l) SAE standard J987 “Lattice Boom Cranes – Method of Test,” June 2003 edition. Cost: \$73.00

(m) SAE standard J1063 “Cantilevered Boom Crane Structures – Method of Test,” November 1993 edition. Cost: \$73.00.

R 408.41003b Adopted standards from Techstreet.

Rule 1003b. The following standards are adopted by reference in these rules and are available from Techstreet, 3916 Ranchero Drive, Ann Arbor, Michigan, 48108, USA, telephone number: 1-800-699-9277 or via the internet at website: [www.techstreet.com](http://www.techstreet.com); at a cost as of the time of adoption of these rules, as stated in this subrule:

(a) British European Standards (BS EN) standard 13000, “Cranes – Mobile Cranes,” 2004 edition. Cost: \$244.61.

(b) BS EN standard 14439, “Cranes – Safety – Tower Cranes,” 2006 edition. Cost: \$202.18.

R 408.41003c Adopted standard from PCSA.

Rule 1003c. Power Crane and Shovel Association (PCSA) Standard No. 4 “Mobile Power Crane and Excavator and Hydraulic Crane Standards,” 1983 edition, is adopted by reference in these rules. This standard is available from the Association of Equipment Manufacturers, 6737 West Washington Street, Suite 2400, Milwaukee, Wisconsin, 53214-5647, USA, telephone number: 1-414-272-0943 or via the internet at website: <http://shop.aem.org>; at a cost as of the time of adoption of these rules of \$3.00.

R 408.41003d Adopted standard from OSHA.

Rule 1003d. The provisions of 29 C.F.R. §1910.7 “Definition and requirements for a nationally recognized testing laboratory,” is adopted by reference in these rules. This standard is available from the United States Department of Labor, Occupational Safety and Health Administration website: [www.osha.gov](http://www.osha.gov); at no charge as of the time of adoption of these rules.

R 408.41003e MIOSHA referenced standards.

Rule 1003e. The following Michigan occupational safety and health standards (MIOSHA) 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, Lansing, Michigan, 48909-8143 or via the internet at website: [www.michigan.gov/mioshastandards](http://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) Construction Safety Standard Part 6 “Personal Protective Equipment,” R 408.40601 to R 408.40641.

(b) Construction Safety Standard Part 8 “Handling and Storage of Materials,” R 408.40801 to R 408.40841.

(c) Construction Safety Standard Part 16 “Power Transmission and Distribution,” R 408.41601 to R 408.41658.

(d) Construction Safety Standard Part 22 “Signals, Signs, Tags, and Barricades,” R 408.42201 to R 408.42243.

(e) Construction Safety Standard Part 26 “Steel Erection,” R 408.42601 to R 408.42656.

(f) Construction Safety Standard Part 28 “Personnel Hoisting in Steel Erection,” R 408.42801 to R 408.42809.

(g) Construction Safety Standard Part 30 “Telecommunications,” R 408.43001 to R 408.43006.

(h) Construction Safety Standard Part 45 “Fall Protection,” R 408.44501 to R 408.44502.

(i) General Industry Safety Standard Part 18 “Overhead and Gantry Cranes,” R 408.11801 to R 408.11875.

(j) General Industry Safety Standard Part 86 “Electric Power Generation, Transmission, and Distribution,” R 408.18601 to R 408.18602.

R 408.41004a Rescinded.

R 408.41005a Rescinded.

## DEFINITIONS

R 408.41006 Definitions; A, B.

Rule 1006. (1) “A/D director” or “assembly/disassembly director” means an individual who meets this standards requirements for an A/D director, irrespective of the individual’s formal job title or whether the individual is non-management or management personnel.

(2) “Articulating crane” means a crane whose boom consists of a series of folding, pin connected structural members, typically manipulated to extend or retract by power from hydraulic cylinders.

(3) “Assembly or disassembly” means the assembly, disassembly, or both, of equipment covered under this standard. With regard to tower cranes, “erecting and climbing” replaces the term “assembly,” and “dismantling” replaces the term “disassembly.” Regardless of whether

the crane is initially erected to its full height or is climbed in stages, the process of increasing the height of the crane is an erection process.

(5) "Attachments" means any device that expands the range of tasks that can be done by the equipment. Examples include, but are not limited to, an auger, drill, magnet, pile-driver, and boom-attached personnel platform.

(6) "Audible signal" means a signal made by a distinct sound or series of sounds. Examples include, but are not limited to, sounds made by a bell, horn, or whistle.

(7) "Base-mounted drum hoist" means a self-contained lifting unit that has a motor, a drum to receive the lifting cable, and mounting flanges for anchoring.

(8) "Blocking," also referred to as "cribbing," means wood or other material used to support equipment or a component and distribute loads to the ground. Blocking is typically used to support lattice boom sections during assembly/disassembly and under outrigger and stabilizer floats.

(9) "Boatswain's chair" means a single-point adjustable suspension scaffold consisting of a seat or sling, which may be incorporated into a full body harness, designed to support 1 employee in a sitting position.

(10) "Bogie" means "travel bogie," as defined in R 408.41006e.

(11) "Boom" when used on equipment other than a tower crane, means an inclined spar, strut, or other long structural member that supports the upper hoisting tackle on a crane or derrick. Typically, the length and vertical angle of the boom can be varied to achieve increased height or height and reach when lifting loads. Booms may be grouped into general categories of hydraulically extendible, cantilevered type, latticed section, cable supported type, or articulating type.

(12) "Boom" or principle horizontal structure, when used on a tower crane, means if it is moveable up and down. If the "boom" is fixed, it is referred to as a jib.

(13) "Boom angle indicator" means a device that measures the angle of the boom relative to horizontal.

(14) "Boom hoist limiting device" includes boom hoist disengaging device, boom hoist shut-off, boom hoist disconnect, boom hoist hydraulic relief, boom hoist kick-outs, automatic boom stop device, or derricking limiter. The boom hoist limiting device means a device that disengages boom hoist power when the boom reaches a predetermined operating angle. It also sets brakes or closes valves to prevent the boom from lowering after power is disengaged.

(15) "Boom length indicator" indicates the length of the permanent part of the boom, such as ruled markings on the boom or, as in some computerized systems, the length of the boom with extensions or attachments.

(16) "Boom stop" means a device that is used to limit the angle of the boom at the highest recommended position. Boom stop includes boom stops, belly straps with struts or standoff, telescoping boom stops, attachment boom stops, and backstops. These devices restrict the boom from moving above a certain maximum angle and toppling over backward.

(17) "Boom suspension system" means a system of pendants, running ropes, sheaves, and other hardware that supports the boom tip and controls the boom angle.

(18) "Builder" means the builder or constructor of equipment.

R 408.41006a Definitions; C, D.

Rule 1006a. (1) "Center of gravity" means the center of gravity of any object is the point in the object around which its weight is evenly distributed. If a support were put under the center of gravity it could balance the object on the support.

(2) "Certified welder" means a welder who meets nationally recognized certification requirements applicable to the task being performed.

(3) "Climbing" means the process in which a tower crane is raised to a new working height, either by adding additional tower sections to the top of the crane (top climbing), or by using a system in which the entire crane is raised inside the structure (inside climbing).

(4) "Come-a-long" means a mechanical device typically consisting of a chain or cable attached at each end that is used to facilitate movement of materials through leverage.

(5) "Competent person" means a person who is trained, experienced, and capable of identifying existing or potential hazards in the surroundings or under working conditions that are unsanitary, hazardous or dangerous to employees, and who has the authority to take prompt corrective measures to eliminate them.

(6) "Controlled load lowering" means lowering a load by means of a mechanical hoist drum device that allows a hoisted load to be lowered with maximum control using the gear train or hydraulic components of the hoist mechanism. Controlled load lowering requires the use of the hoist drive motor, rather than the load hoist brake, to lower the load.

(7) "Controlling entity" means an employer that is a prime contractor, general contractor, construction manager or any other legal entity that has the overall responsibility for the construction of the project including its planning, quality, and completion.

(8) "Counterweight" means a weight that is used to supplement the weight of equipment in providing stability for lifting loads by counterbalancing those loads.

(9) "Crane/derrick" includes all equipment covered by this standard.

(10) "Crawler crane" means equipment that consists of a rotating superstructure that has a power plant, operating machinery, and a boom and that is mounted on a base and equipped with crawler treads for travel.

(11) "Critical lift" means a lift that exceeds 75% of the rated capacity of the crane or derrick or that requires the use of more than 1 crane or derrick.

(12) "Crossover points" means locations on a wire rope that is spooled on a drum where 1 layer of rope climbs up on and crosses over the previous layer. This takes place at each flange of the drum as the rope is spooled onto the drum, reaches the flange, and begins to wrap back in the opposite direction.

(13) "Deadman control" means a device that stops and locks the machinery when the control is released.

(14) "Dedicated channel" means a line of communication assigned by the employer who controls the communication system to only 1 signal person and a crane/derrick or to a coordinated group of cranes/derricks, signal person or persons.

(15) "Dedicated pile-driver" means a machine that is designed to function exclusively as a pile-driver. These machines typically have the ability to both hoist the material that shall be pile-driven and to pile-drive that material.

(16) "Dedicated spotter" for power lines means an employee who meets the requirements of R 408.41055 for signal person qualifications and whose sole responsibility is to watch the separation between the power line and the equipment, load line and load including rigging and lifting accessories, and ensure through communication with the operator that the applicable minimum approach distance is not breached.

(17) "Derrick" means powered equipment consisting of a mast or equivalent member that is held at or near the end by guys or braces, with or without a boom, and its hoisting mechanism. The mast or equivalent member, or the load, or both are moved by the hoisting mechanism, which is typically base-mounted, and operating ropes. Derricks include A-frame, basket, breast,

Chicago boom, gin pole, except gin poles used for erection of communication towers, guy, shearleg, stiffleg, and variations of such equipment.

(18) "Directly under the load" means when any part of an employee is directly beneath the load.

(19) "Dismantling" includes complete and partial dismantling, such as dismantling to shorten a boom or substitute a different component.

(20) "Drum rotation indicator" means a device on a crane or hoist that indicates in which direction and at what relative speed a particular hoist drum is turning.

(21) "Dynamic loading" means the loads introduced into the machine or its components by forces in motion.

#### R 408.41006b Definitions; E to J.

Rule 1006b. (1) "Electrical contact" occurs when a person, object, or equipment makes contact or comes in close proximity to an energized conductor or equipment that allows the passage of current.

(2) "Employer-made equipment" means floating cranes/derricks designed and built by an employer for the employer's own use.

(3) "Encroachment" means where any part of the crane, load line, or load, including rigging and lifting accessories, breaches a minimum clearance distance that this standard requires to be maintained from a power line.

(4) "Equipment" means equipment covered by this standard.

(5) "Equipment criteria" means instructions, recommendations, limitations, and specifications.

(6) "Fall protection equipment" means guardrail systems, safety net systems, personal fall arrest systems, positioning device systems, or fall restraint systems.

(7) "Fall restraint system" means a fall protection system that prevents the user from falling any distance. The fall restraint system is comprised of either a body belt or body harness, along with an anchorage, connectors, and other necessary equipment. The other components typically include a lanyard, and may also include a lifeline and other devices.

(8) "Fall zone" means the area, including, but not limited to, the area directly beneath the load, in which it is reasonably foreseeable that partially or completely suspended materials could fall in the event of an accident.

(9) "Flange point" means a point of contact between the rope and the drum flange where the rope changes layers.

(10) "Floating cranes/derricks" means equipment designed by the manufacturer or employer for marine use by permanent attachment to a barge, pontoons, vessel, or other means of flotation.

(11) "For example" means 1 example, although there are others.

(12) "Free fall" means that only the brake is used to regulate the descent of the load line. The drive mechanism is not used to drive the load down faster or retard its lowering.

(13) "Free surface effect" means the uncontrolled transverse movement of liquids in compartments which reduce a vessel's transverse stability.

(14) "Ground conditions" means the ability of the ground to support the equipment including, but not limited to, slope, compaction, and firmness.

(15) "Gudgeon pin" means a pin that is used to connect the base of a boom to the main frame.

(16) "Hoist" means a system of power driven drums, gears, cables, chains, or hydraulic cylinders capable of lifting and lowering loads.

(17) "Hoisting" means the act of raising, lowering, or otherwise moving a load in the air with equipment covered by this standard. As used in this standard, "hoisting" can be done by means other than wire rope/hoist drum equipment.

(18) "Include" or "including" means including, but not limited to.

(19) "Insulating link or device" means an insulating device listed, labeled, or accepted by a nationally recognized testing laboratory in accordance with 29 CFR 1910.7, as adopted in R 408.41003d.

(20) "Jib stop" or "jib backstop" means the same type of device as a boom stop but is for a fixed or luffing jib.

R 408.41006c Definitions; L to N.

Rule 1006c. (1) "Land crane/derrick" means equipment not originally designed by the manufacturer for marine use by permanent attachment to barges, pontoons, vessels, or other means of floatation.

(2) "Load" means to the object or objects being hoisted, the weight of the object or objects, or both. Both uses refer to the object or objects and the load-attaching equipment. This may include the load block, ropes, slings, shackles, and any other ancillary attachment.

(3) "Load moment or rated capacity indicator" means a system that aids the equipment operator by directly or indirectly sensing the overturning moment on the equipment, for example, load multiplied by radius. The system compares this lifting condition to the equipment's rated capacity, and indicates to the operator the percentage of capacity at which the equipment is working. Lights, bells, or buzzers may be incorporated as a warning of an approaching overload condition.

(4) "Load moment or rated capacity limiter" means a system that aids the equipment operator by directly or indirectly sensing the overturning moment on the equipment, for example, load multiplied by radius. The system compares this lifting condition to the equipment's rated capacity. When the rated capacity is reached, it shuts off power to those equipment functions that can increase the severity of loading on the equipment, for example, hoisting, telescoping out, or luffing out. Typically, those functions which decrease the severity of loading on the equipment remain operational, for example, lowering, telescoping in, or luffing in.

(5) "Locomotive crane" means a crane that is mounted on a base or car that is equipped for travel on a railroad track.

(6) "Luffing jib limiting device" means a device that is similar to a boom hoist limiting device, except that it limits the movement of the luffing jib.

(7) "Marine hoisted personnel transfer device" means a device that is designed to protect the employees being hoisted during a marine transfer and to facilitate rapid entry into and exit from the device. Such devices do not include boatswain's chairs when hoisted by equipment covered by this standard.

(8) "Marine worksite" means a construction worksite located in, on, or above the water.

(9) "Mobile crane" means a lifting device incorporating a cable suspended latticed boom or hydraulic telescopic boom designed to be moved between operating locations by transport over the road.

(10) "Moving point-to-point" means the times during which an employee is in the process of going to or from a work station.

(11) "Multi-purpose machine" means a machine that is designed to be configured in various ways, at least 1 of which allows it to hoist by means of a winch or hook and horizontally move a suspended load. For example, a machine that can rotate and can be configured with removable forks or tongs, for use as a forklift, or with a winch pack, jib with a hook at the end or a jib used in conjunction with a winch.

When configured with the forks or tongs, the multi-purpose machine is not covered by this standard. When configured with a winch pack, jib with a hook at the end or a jib used in conjunction with a winch is covered by this standard.

(12) "Nationally recognized accrediting agency" means an organization that, due to its independence and expertise, is widely recognized as competent to accredit testing organizations. Examples of such accrediting agencies include, but are not limited to, the National Commission for Certifying Agencies and the American National Standards Institute.

(13) "Nonconductive" means that, because of the nature and condition of the materials used, and the conditions of use, including environmental conditions and condition of the material, the object in question has the property of not becoming energized, that is, it has high dielectric properties offering a high resistance to the passage of current under the conditions of use.

R 408.41006d Definitions; O to R.

Rule 1006d. (1) "Operational aids" means devices that assist the operator in the safe operation of the crane by providing information or automatically taking control of a crane function.

(2) "Operational controls" means levers, switches, pedals, and other devices for controlling equipment operation.

(3) "Operator" means a person who is operating the equipment.

(4) "Overhead and gantry cranes" includes overhead, bridge, semi-gantry, cantilever gantry, wall, storage bridge, launching gantry cranes, and similar equipment, regardless of how it travels, whether on tracks, wheels, or other means.

(5) "Pendants" includes both wire and bar types. Wire type means a fixed length of wire rope with mechanical fittings at both ends for pinning segments of wire rope together. Bar type means a bar is used instead of wire rope. Pendants are typically used in a latticed boom crane system to easily change the length of the boom suspension system without completely changing the rope on the drum when the boom length is increased or decreased.

(6) "Personal fall arrest system" means a system used to arrest an employee in a fall from a working level. The system consists of an anchorage, connectors, and a body harness and may include a lanyard, deceleration device, lifeline, or suitable combination of these.

(7) "Portal crane" means a type of crane consisting of a rotating upperstructure, hoist machinery, and boom mounted on top of a structural gantry that may be fixed in 1 location or have travel capability. The gantry legs or columns usually have portal openings in between to allow passage of traffic beneath the gantry.

(8) "Power-controlled lowering" means a system or device in the power train, other than the load hoist brake, that can control the lowering rate of speed of the load hoist mechanism.

(9) "Power lines" means electric transmission and distribution lines.

(10) "Procedures" means, but are not limited to, instructions, diagrams, recommendations, warnings, specifications, protocols, and limitations.

(11) "Proximity alarm" means a device that provides a warning of proximity to a power line and that has been listed, labeled, or accepted by a nationally recognized testing laboratory in accordance with 29 CFR 1910.7, as adopted in R 408.41003d.

(12) "Qualified person" means a person who, through attainment of a recognized degree or certificate of professional standing or by extensive knowledge, training, and experience, has successfully demonstrated the ability to solve or resolve problems relating to the subject matter and work.

(13) "Qualified rigger" means a rigger who meets the criteria for a qualified person.

(14) "Qualified evaluator, not a third party," means a person employed by the signal person's employer who has demonstrated that he or she is competent in accurately assessing whether individuals meet the qualification requirements in these rules for a signal person

(15) “Qualified evaluator, that is a third party,” means an entity that, due to its independence and expertise, has demonstrated that it is competent in accurately assessing whether individuals meet the qualification requirements in these rules for a signal person.

(16) “Range control limit device” is a device that can be set by an equipment operator to limit movement of the boom or jib tip to a plane or multiple planes.

(17) "Range control warning device" means a device that can be set by an equipment operator to warn that the boom or jib tip is at a plane or multiple planes.

(18) "Rated capacity" means the maximum working load permitted by the manufacturer under specified working conditions. These working conditions typically include a specific combination of factors, such as equipment configuration, radii, boom length, and other parameters of use.

(19) "Rated capacity indicator" means “load moment indicator” as defined in R 408.41006c.

(20) "Rated capacity limiter" “load moment indicator” as defined in R 408.41006c.

(21) "Refresher training" means a short-term course aimed at recall and reinforcement of previously acquired knowledge and skills.

(22) "Repetitive pickup points" means, when operating on a short cycle operation, the rope being used on a single layer and being spooled repetitively over a short portion of the drum.

(23) "Running wire rope" means a wire rope that moves over sheaves or drums.

(24) "Runway" means a firm, level surface designed, prepared, and designated as a path of travel for the weight and configuration of the crane being used to lift and travel with the crane suspended platform. An existing surface may be used as long as it meets these criteria.

#### R 408.41006e Definitions; S to W.

Rule 1006e. (1) "Sideboom crane" means a track-type or wheel-type tractor having a boom mounted on the side of the tractor, used for lifting, lowering, or transporting a load suspended on the load hook. The boom or hook can be lifted or lowered in a vertical direction only.

(2) "Special hazard warnings" means warnings of site-specific hazards, for example, proximity of power lines.

(3) "Stability” as it pertains to flotation devices, means the tendency of a barge, pontoons, vessel, or other means of flotation to return to an upright position after having been inclined by an external force.

(4) "Standard method" means the protocol in Appendix A of this standard for hand signals.

(5) "Such as" means “such as, but not limited to.”

(6) "Superstructure" means upperworks.

(7) “Supporting materials” means blocking, mats, cribbing, marsh buggies in marshes or wetlands, or similar supporting materials or devices.

(8) "Tagline" means a rope, usually fiber, that is attached to a lifted load for controlling load spinning and pendular motions or used to stabilize a bucket or magnet during material handling operations.

(9) “Telescoping boom” means a base boom from which 1 or more boom sections are extended for additional length.

(10) "Tender" means an individual responsible for monitoring and communicating with a diver.

(11) "Tilt up or tilt down operation" means the raising or lowering of a load from the horizontal to vertical or vertical to horizontal.

(12) "Tower crane" means a type of lifting structure that utilizes a vertical mast or tower to support a working boom or jib in an elevated position. Loads are suspended from the working boom. While the working boom may be of the fixed type, horizontal or angled, or have luffing capability, it can always rotate to swing loads, either by rotating on the top of the tower, referred to as top slewing, or by the rotation of the tower, referred to as bottom slewing. The tower base

may be fixed in 1 location or ballasted and moveable between locations. Mobile cranes that are configured with a luffing jib or tower attachments are not considered tower cranes under this rule.

(13) "Travel bogie" as it pertains to tower cranes, means an assembly of 2 or more axles arranged to permit vertical wheel displacement and equalize the loading on the wheels.

(14) "Trim" means angle of inclination about the transverse axis of a barge, pontoons, vessel or other means of floatation.

(15) "Two-blocking" means a condition in which a component that is uppermost on the hoist line, such as the load block, hook block, overhaul ball, or similar component, comes in contact with the boom tip, fixed upper block, or similar component. This binds the system and continued application of power can cause failure of the hoist rope or other component.

(16) "Unavailable procedures" means procedures that are no longer available from the manufacturer, or have never been available from the manufacturer.

(17) "Upperstructure" means upperworks, as defined in subrule (18) of this rule.

(18) "Upperworks" means the revolving frame of equipment on which the operating machinery, and in many cases the engine, are mounted along with the operator's cab. The counterweight is typically supported on the rear of the upperstructure and the boom or other front end attachment is mounted on the front.

(19) "Up to" means "up to and including."

(20) "Wire rope" means a flexible rope constructed by laying steel wires into various patterns of multi-wired strands around a core system to produce a helically wound rope.

## GROUND CONDITIONS

R 408.41007 Ground conditions.

Rule 1007. (1) A user of equipment shall not use or assemble equipment unless ground conditions are firm, drained, and graded to a sufficient extent so that, in conjunction with the use of supporting materials if necessary, the equipment manufacturer's specifications for adequate support and degree of level of the equipment are met. The requirement for the ground to be drained does not apply to marshes or wetlands.

(2) The controlling entity shall do both of the following:

(a) Ensure that ground preparations necessary to meet the requirements in subrule (1) of this rule are provided.

(b) Inform the user of the equipment and the operator of the location of hazards beneath the equipment set-up area, such as voids, tanks, and utilities, if those hazards are identified in documents, such as site drawings, as-built drawings, and soil analyses, that are in the possession of the controlling entity, whether at the site or off-site, or the hazards are otherwise known to that controlling entity.

(3) If there is no controlling entity for the project, the requirement in subrule (2)(a) of this rule shall be met by the employer who has authority at the site to make or arrange for ground preparations needed to meet subrule (1) of this rule.

(4) If the A/D director or the operator determines that ground conditions do not meet the requirements in subrule (1) of this rule, that person's employer shall have a discussion with the controlling entity regarding the ground preparations that are needed so that the requirements in subrule (1) of this rule can be met with the use of suitable supporting materials or devices, if necessary.

(5) This rule does not apply to cranes designed for use on railroad tracks when used on railroad tracks that are part of the general railroad system of transportation that is regulated by the

Federal Railroad Administration under 49 CFR part 213, as adopted in R 408.41003f, and that comply with applicable Federal Railroad Administration requirements.

R 408.41008a Rescinded.

R 408.41009a Rescinded.

R 408.41009b Rescinded.

R 408.41011a Rescinded.

R 408.41011b Rescinded.

R 408.41011c Rescinded.

R 408.41011d Rescinded.

R 408.41011e Rescinded.

R 408.41012a Rescinded.

R 408.41013a Rescinded.

R 408.41014a Rescinded.

R 408.41015a Rescinded.

R 408.41016a Rescinded.

R 408.41016b Rescinded.

R 408.41016c Rescinded.

R 408.41016d Rescinded.

R 408.41016e Rescinded.

R 408.41017a Rescinded.

R 408.41018a Rescinded.

R 408.41019a Rescinded.

R 408.41019b Rescinded.

R 408.41019c Rescinded.

R 408.41020a Rescinded.

R 408.41021a Rescinded.

R 408.41021b Rescinded.

R 408.41022a Rescinded.

R 408.41023a Rescinded.

R 408.41024a Rescinded.

R 408.41025a Rescinded.

R 408.41025b Rescinded.

R 408.41026a Rescinded.

R 408.41027a Rescinded.

R 408.41028a Rescinded.

R 408.41029a Rescinded.

R 408.41030a Rescinded.

R 408.41031a Rescinded.

R 408.41032a Rescinded.

R 408.41033a Rescinded.

R 408.41034a Rescinded.

#### ASSEMBLY OR DISASSEMBLY

R 408.41035 Selection of manufacturer or employer procedures.

Rule 1035. When selecting manufacturer or employer procedures for assembling or disassembling equipment or attachments, the employer shall comply with all applicable manufacturer prohibitions and with either of the following:

(a) Manufacturer procedures applicable to assembly and disassembly.

(b) Employer procedures for assembly or disassembly. Employer procedures may be used only where the employer can demonstrate that the procedures used meet the requirements in R 408.41035d.

Note: The employer shall follow manufacturer procedures when an employer uses synthetic slings during assembly or disassembly rigging, as specified in R 408.41035b(21).

R 408.41035a General requirements.

Rule 1035a. (1) Supervision by a competent and qualified person. Both of the following criteria apply to a person supervising assembly or disassembly of equipment:

(a) Assembly or disassembly must be directed by a person who meets the criteria for both a competent person and a qualified person, or by a competent person who is assisted by 1 or more qualified persons.

(b) Where the assembly or disassembly is being performed by only 1 person, that person shall meet the criteria for both a competent person and a qualified person. For purposes of this standard, that person is considered the A/D director.

(2) Knowledge of procedures. The A/D director shall understand the applicable assembly or disassembly procedures.

(3) Review of procedures. The A/D director shall review the applicable assembly or disassembly procedures immediately prior to the commencement of assembly or disassembly unless the A/D director understands the procedures and has applied them to the same type and configuration of equipment, including accessories, if any.

(4) Crew instructions. Both of the following apply to crew instructions:

(a) Before commencing assembly or disassembly operations, the A/D director shall ensure that the crew members understand all of the following:

(i) Their tasks.

(ii) The hazards associated with their tasks.

(iii) The hazardous positions and locations that crew members need to avoid.

(b) During assembly or disassembly operations, before a crew member takes on a different task, or when adding new personnel during the operations, the requirements in subdivision (a) of this subrule must be met.

(5) All of the following apply to protecting assembly or disassembly crew members out of operator view:

(a) Before a crew member goes to a location that is out of view of the operator and is either in, on, or under the equipment, or near the equipment or load where the crew member could be injured by movement of the equipment or load, the crew member shall inform the operator that he or she is going to that location.

(b) Where the operator knows that a crew member went to a location covered by subdivision (a) of this subrule, the operator shall not move any part of the equipment or load until the operator is informed in accordance with a prearranged system of communication that the crew member is in a safe position.

(6) When an employee is working under the boom, jib or other components, the following apply:

(a) When pins or similar devices are being removed, employees shall not be under the boom, jib, or other components, except where the requirements of subrule (2) of this rule are met.

(b) When the employer demonstrates that site constraints require 1 or more employees to be under the boom, jib, or other components when pins or similar devices are being removed, the A/D director shall implement procedures that minimize the risk of unintended dangerous movement and minimize the duration and extent of exposure under the boom. See Non-mandatory Appendix B of this standard for an example.

(7) Capacity limits. During all phases of assembly or disassembly, the A/D director shall ensure that rated capacity limits for loads imposed on the equipment, equipment components including rigging, lifting lugs, and equipment accessories are not exceeded for the equipment being assembled or disassembled.

R 408.41035b Addressing specific hazards.

Rule 1035b. (1) The A/D director who supervises the assembly or disassembly operation shall address the hazards associated with the operation, including the hazards described in subrules (2) to (21) of this rule.

(2) Site and ground bearing conditions. Site and ground conditions shall be adequate for safe assembly or disassembly operations and to support the equipment during assembly or disassembly, as specified in R 408.41007.

(3) Blocking material. The size, amount, condition, and method of stacking the blocking shall be sufficient to sustain the loads and maintain stability.

(4) Proper location of blocking. When used to support lattice booms or components, blocking shall be appropriately placed to do both of the following:

(a) Protect the structural integrity of the equipment.

(b) Prevent dangerous movement and collapse.

(5) Verifying assist crane loads. When using an assist crane, the loads that are imposed on the assist crane at each phase of assembly or disassembly shall be verified in accordance with R 408.41053e(3) before assembly or disassembly begins.

(6) Boom and jib pick points. The points of attachment of rigging to a boom, or boom sections or jib or jib sections, shall be suitable for preventing structural damage and facilitating safe handling of these components.

(7) The following apply to center of gravity:

(a) The center of gravity of the load shall be identified if that is necessary for the method used for maintaining stability.

(b) When there is insufficient information to accurately identify the center of gravity, measures designed to prevent unintended dangerous movement resulting from an inaccurate identification of the center of gravity shall be used. See Non-mandatory Appendix B of this standard for an example.

(8) Stability upon pin removal. The boom sections, boom suspension systems, such as gantry A-frames and jib struts, and components shall be rigged or supported to maintain stability upon the removal of the pins.

(9) Snagging. Suspension ropes and pendants shall not be allowed to catch on the boom or jib connection pins or cotter pins, including keepers and locking pins.

(10) Struck by counterweights. The A/D director shall address potential for unintended movement from inadequately supported counterweights and from hoisting counterweights.

(11) Boom hoist brake failure. Each time reliance is to be placed on the boom hoist brake to prevent boom movement during assembly or disassembly, the brake shall be tested prior to such reliance to determine if it is sufficient to prevent boom movement. If it is not sufficient, a boom hoist pawl, other locking device or back-up braking device, or another method of preventing dangerous movement of the boom, such as blocking or using an assist crane, from a boom hoist brake failure shall be used.

(12) Loss of backward stability. The A/D director shall address backward stability before swinging the upperworks, travel, and when attaching or removing equipment components.

(13) Wind speed and weather. The A/D director shall address the effect of wind speed and weather on the equipment.

(14) Cantilevered boom sections. Manufacturer limitations on the maximum amount of boom supported only by cantilevering shall not be exceeded. When the maximum limitations are unavailable, a registered professional engineer familiar with the type of equipment involved shall determine in writing this limitation; the limitation determined by the registered professional engineer shall not be exceeded.

(15) Weight of components. The weight of each of the components shall be readily available.

(16) Components and configuration. The following apply to components and configuration.

(a) The selection of components and configuration of the equipment that affect the capacity or safe operation of the equipment shall be in accordance with 1 of the following:

(i) Manufacturer instructions, prohibitions, limitations, and specifications. When these are unavailable, a registered professional engineer familiar with the type of equipment involved shall approve, in writing, the selection and configuration of components.

(ii) Approved modifications that meet the requirements of R 408.41083.

(b) Post assembly inspection. Upon completion of assembly, the A/D director shall inspect the equipment to ensure compliance with subdivision (a) of this subrule. See R 408.41037b for post assembly inspection requirements.

(17) Shipping pins, reusable shipping pins, straps, links, and similar equipment shall be removed. After they are removed, they shall either be stowed or otherwise stored so that they do not present a falling object hazard.

(18) Pile driving. Equipment used for pile driving shall not have a jib attached during pile driving operations.

(19) Outriggers and stabilizers. When the load to be handled and the operating radius require the use of outriggers or stabilizers, or at any time when outriggers or stabilizers are used, all of the following requirements shall be met, except as otherwise indicated:

(a) The outriggers or stabilizers shall be either fully extended or, if the manufacturer's procedures permit, deployed as specified in the load chart.

(b) The outriggers shall be set to remove the equipment weight from the wheels except for locomotive cranes. For use of outriggers on locomotive cranes subrule (20) of this rule applies. This rule does not apply to stabilizers.

(c) When outrigger floats are used, the operator shall ensure they are attached to the outriggers. When stabilizer floats are used, the operator shall ensure they are attached to the stabilizers.

(d) Each outrigger or stabilizer shall be visible to the operator or to a signal person during extension and setting.

(e) Outrigger and stabilizer blocking shall comply with both of the following:

(i) Meet the requirements in subrules (3) and (4) of this rule.

(ii) Be placed only under the outrigger or stabilizer float or pad of the jack or, where the outrigger or stabilizer is designed without a jack, under the outer bearing surface of the extended outrigger or stabilizer beam.

(20) For locomotive cranes, when using outriggers or stabilizers to handle loads, the manufacturer's procedures shall be followed. When lifting loads without using outriggers or stabilizers, the manufacturer's procedures regarding truck wedges or screws must be met.

(21) Rigging. In addition to the requirements in Construction Safety Standard Part 8 "Handling and Storage of Materials," as referenced in R 408.41003e, and other requirements in this and other standards applicable to rigging, when rigging is used for assembly or disassembly, the employer shall ensure all of the following:

(a) The rigging work is done by a qualified rigger.

(b) Synthetic slings are protected from abrasive, sharp, or acute edges, and configurations that could cause a reduction of the sling's rated capacity, such as distortion or localized compression. Requirements for the protection of wire rope slings are contained in Construction Safety Standard Part 8 "Handling and Storage of Materials," as referenced in R 408.41003e.

(c) When synthetic slings are used, the synthetic sling manufacturer's instructions, limitations, specifications, and recommendations shall be followed.

R 408.41035c Dismantling of booms and jibs; applicability to manufacturer and employer procedures.

Rule 1035c. During dismantling, including dismantling for changing the length of, booms and jibs, an employee must meet all of the following requirements:

(a) None of the pins in the pendants shall be removed, either partly or completely, when the pendants are in tension.

(b) None of the pins at the top or bottom of the boom sections located between the pendant attachment points and the crane or derrick body shall be removed, either partly or completely, when the pendants are in tension.

(c) None of the pins at the top or bottom on boom sections located between the uppermost boom section and the crane or derrick body shall be removed, either partly or completely, when the boom is being supported by the uppermost boom section resting on the ground or other support.

(d) None of the top pins on boom sections located on the cantilevered portion of the boom being removed, for example, the portion being removed ahead of the pendant attachment points, shall not be removed, either partly or completely, until the cantilevered section to be removed is fully supported.

R 408.41035d General requirements applicable to employer procedures.

Rule 1035d. (1) When using employer procedures instead of manufacturer procedures for assembly or disassembly, the employer procedures shall ensure all of the following:

(a) Prevent unintended dangerous movement, and prevent collapse, of any part of the equipment.

(b) Provide adequate support and stability of all parts of the equipment.

(c) Position employees involved in the assembly or disassembly operation so that their exposure to unintended movement or collapse of part or all of the equipment is minimized.

(2) Employer procedures must be developed by a qualified person.

## POWER LINE SAFETY

R 408.41036 Power line safety up to 350 kV; assembly and disassembly.

Rule 1036. (1) Before assembling or disassembling equipment, the employer shall determine if any part of the equipment, load line, or load, including rigging and lifting accessories, could get closer than 20 feet to a power line during the assembly or disassembly process. If this could occur, the employer shall meet the requirements in subrule (2), (3) or (4) of this rule.

(2) Option (1)—Deenergize and ground. Confirm from the utility owner or operator that the power line has been deenergized and visibly grounded at the worksite. Employers choosing this option shall not proceed with this option if the electric utility does not deenergize the power line. This standard does not require utility companies to deenergize power lines.

(3) Option (2)—20 foot clearance. Ensure that no part of the equipment, load line, or load, including rigging and lifting accessories, gets closer than 20 feet to the power line by implementing the measures specified in subrule (5) of this rule.

(4) Option (3)—Table A clearance. All of the following apply:

(a) Determine the line's voltage and the minimum clearance distance permitted under Table A "Minimum Clearance Distances."

(b) Determine if any part of the equipment, load line, or load, including rigging and lifting accessories, could get closer than the minimum clearance distance to the power line permitted under Table A "Minimum Clearance Distances." If this could occur, then the employer shall

follow the requirements in subrule (5) of this rule to ensure that no part of the equipment, load line, or load, including rigging and lifting accessories, gets closer to the line than the minimum clearance distance.

(5) Preventing encroachment or electrocution. When encroachment precautions are required under subrule (3) or (4) of this rule, all of the following requirements shall be met:

(a) Conduct a planning meeting with the A/D director, operator, assembly or disassembly crew and the other workers who will be in the assembly or disassembly area to review the location of the power lines and the steps that must be implemented to prevent encroachment and electrocution.

(b) If tag lines are used, the tag lines must be nonconductive.

(c) The operator shall ensure that at least 1 of the following additional measures is in place. The measure selected shall be effective in preventing encroachment. The additional measures consist of the following:

(i) Use a dedicated spotter who is in continuous contact with the equipment operator. The dedicated spotter shall comply with all the following:

(A) Be equipped with a visual aid to assist in identifying the minimum clearance distance. Examples of a visual aid include, but are not limited to, the following:

(1) A clearly visible line painted on the ground.

(2) A clearly visible line of stanchions.

(3) A set of clearly visible line-of-sight landmarks, such as a fence post behind the dedicated spotter and a building corner ahead of the dedicated spotter.

(B) Be positioned to effectively gauge the clearance distance.

(C) Where necessary, use equipment that enables the dedicated spotter to communicate directly with the operator.

(D) Give timely information to the operator so that the required clearance distance can be maintained.

(ii) Use a proximity alarm set to give the operator sufficient warning to prevent encroachment.

(iii) Use a device that automatically warns the operator when to stop movement, such as a range control warning device. Such a device shall be set to give the operator sufficient warning to prevent encroachment.

(iv) Use a device that automatically limits range of movement and that is set to prevent encroachment.

(v) Use an elevated warning line, barricade, or line of signs, in view of the operator, equipped with flags or similar high-visibility markings.

(6) Assembly/disassembly below power lines prohibited. The employer shall ensure that no part of a crane or derrick, load line, or load, including rigging and lifting accessories, whether partially or fully assembled, is allowed below a power line unless the employer has confirmed that the utility owner or operator has deenergized and visibly grounded the power line at the worksite.

(7) Assembly/disassembly inside Table A clearance prohibited. The employer shall ensure that no part of a crane or derrick, load line, or load, including rigging and lifting accessories, whether partially or fully assembled, is closer than the minimum approach distance under Table A “Minimum Clearance Distances” to a power line unless the employer has confirmed that the utility owner or operator has deenergized and visibly grounded the power line at the worksite.

(8) Voltage information. When Option (3) in subrule (4) of this rule is used, the utility owner or operator of the power lines shall provide the requested voltage information within 2 working days of the employer’s request.

(9) Power lines presumed energized. The employer may assume that all power lines are energized unless the utility owner or operator confirms that the power line has been and continues to be deenergized and visibly grounded at the worksite.

(10) Posting of electrocution warnings. The employer shall ensure that at least 1 electrocution hazard warning is conspicuously posted in the cab so that it is in view of the operator and, except for overhead gantry and tower cranes, at least 2 are posted on the outside of the equipment.

R 408.41036a Power line safety up to 350 kV; equipment operations.

Rule 1036a. (1) Hazard assessments and precautions inside the work zone. Before beginning equipment operations, the employer shall comply with the requirements in subrules (2) and (3) of this rule.

(2) The employer shall ensure that the work zone is identified by either of the following means:

(a) Demarcating boundaries, such as with flags, or a device such as a range limit device or range control warning device, and prohibiting the operator from operating the equipment past those boundaries.

(b) Defining the work zone as the area 360 degrees around the equipment, up to the equipment's maximum working radius.

(3) The employer shall determine if any part of the equipment, load line, or load, including rigging and lifting accessories, if operated up to the equipment's maximum working radius in the work zone, could get closer than 20 feet to a power line. If this could occur, the employer shall do 1 of the following:

(a) Option (1)—Deenergize and ground. Confirm from the utility owner or operator that the power line has been deenergized and visibly grounded at the worksite.

(b) Option (2)—20 foot clearance. Ensure that no part of the equipment, load line, or load, including rigging and lifting accessories, gets closer than 20 feet to the power line by implementing the measures specified in subrule (4) of this rule.

(c) Option (3)—Table A clearance. The following apply:

(i) Determine the line's voltage and the minimum approach distance permitted under Table A "Minimum Clearance Distances."

(ii) Determine if any part of the equipment, load line, or load, including rigging and lifting accessories, while operating up to the equipment's maximum working radius in the work zone, could get closer than the minimum approach distance of the power line permitted under Table A "Minimum Clearance Distances." If this could occur, the employer shall follow the requirements in subrule (4) of this rule to ensure that no part of the equipment, load line, or load, including rigging and lifting accessories, gets closer to the line than the minimum approach distance.

(4) Preventing encroachment or electrocution. Where encroachment precautions are required under subrule (3)(b) or (c) of this rule, all of the following requirements shall be met:

(a) Conduct a planning meeting with the operator and the other workers who may be in the area of the equipment or load to review the location of the power lines, and the steps that will be implemented to prevent encroachment or electrocution.

(b) If tag lines are used, the tag lines must be nonconductive.

(c) Erect and maintain an elevated warning line, barricade, or line of signs, in view of the operator, equipped with flags or similar high-visibility markings, at 20 feet from the power line, if using subrule (3)(b) of this rule, or at the minimum approach distance under Table A "Minimum Clearance Distances" if using subrule (3)(c) of this rule. If the operator is unable to see the elevated warning line, a dedicated spotter shall be used as described in subrule (4)(d)(ii) of this rule in addition to implementing 1 of the measures described in subrule (4)(d)(i), (iii), (iv), and (v) of this rule.

(d) Implement at least 1 of the following measures:

(i) A proximity alarm set to give the operator sufficient warning to prevent encroachment.

(ii) Use a dedicated spotter who is in continuous contact with the operator. The dedicated spotter must do all of the following:

(A) Be equipped with a visual aid to assist in identifying the minimum clearance distance. Examples of a visual aid include, but are not limited to, any of the following:

(1) A clearly visible line painted on the ground.

(2) A clearly visible line of stanchions.

(3) A set of clearly visible line-of-sight landmarks such as a fence post behind the dedicated spotter and a building corner ahead of the dedicated spotter.

(B) Be positioned to effectively gauge the clearance distance.

(C) Where necessary, use equipment that enables the dedicated spotter to communicate directly with the operator.

(D) Give timely information to the operator so that the required clearance distance can be maintained.

(iii) Use a device that automatically warns the operator when to stop movement, such as a range control warning device. This device shall be set to give the operator sufficient warning to prevent encroachment.

(iv) Use of a device that automatically limits range of movement shall be set to prevent encroachment.

(v) Use of an insulating link or device, as defined in R 408.41006b, shall be installed at a point between the end of the load line, or below, and the load.

(e) The requirements of subdivision (4)(d) of this subrule do not apply to work covered by Construction Safety Standard Part 16 “Power Transmission and Distribution,” as referenced in R 408.41003e.

(5) Voltage information. When subrule (3)(c) of this rule is used, the utility owner or operator of the power lines shall provide the requested voltage information within 2 working days of the employer’s request.

(6) Operations below power lines. No part of the equipment, load line, or load, including rigging and lifting accessories, is allowed below a power line unless the employer has confirmed that the utility owner or operator has deenergized and visibly grounded the power line at the worksite.

This subrule is inapplicable when the employer demonstrates that 1 of the following applies:

(a) The work is covered by Construction Safety Standard Part 16 “Power Transmission and Distribution,” as referenced in R 408.41003e.

(b) For equipment with non-extensible booms, the uppermost part of the equipment, with the boom at true vertical, would be more than 20 feet below the plane of the power line or more than the Table A, minimum clearance distance below the plane of the power line.

(c) For equipment with articulating or extensible booms, the uppermost part of the equipment, with the boom in the fully extended position, at true vertical, would be more than 20 feet below the plane of the power line or more than the Table A, minimum clearance distance below the plane of the power line.

(d) The employer demonstrates that compliance with this subrule is infeasible and meets the requirements of R 408.41036c.

(7) Power lines presumed energized. The employer may assume that all power lines are energized unless the utility owner or operator confirms that the power line has been and continues to be deenergized and visibly grounded at the worksite.

(8) Working near transmitter or communication towers. When working near transmitter or communication towers where the equipment is close enough for an electrical charge to be induced in the equipment or materials being handled, the employer shall ensure that the transmitter is deenergized or both of the following precautions are taken:

(a) The equipment is provided with an electrical ground.

(b) If tag lines are used, the tag lines are non-conductive.

(9) Training. The employer shall train each operator and crew member assigned to work with the equipment on all of the following:

(a) The procedures to be followed in the event of electrical contact with a power line, including all of the following:

(i) Information regarding the danger of electrocution from the operator simultaneously touching the equipment and the ground.

(ii) The importance to the operator's safety of remaining inside the cab except where there is an imminent danger of fire, explosion, or other emergency that necessitates leaving the cab.

(iii) The safest means of evacuating from equipment that may be energized.

(iv) The danger of the potentially energized zone around the equipment, step potential.

(v) The need for crew in the area to avoid approaching or touching the equipment and the load.

(vi) Safe clearance distance from power lines.

(b) Power lines are presumed to be energized unless the utility owner or operator confirms that the power line has been and continues to be deenergized and visibly grounded at the worksite.

(c) Power lines are presumed to be uninsulated unless the utility owner or operator or a registered engineer who is a qualified person with respect to electrical power transmission and distribution confirms that a line is insulated.

(d) The limitations of an insulating link or device, proximity alarm, and any range control devices, if used.

(e) The procedures to be followed to properly ground equipment and the limitations of grounding.

(f) Employees working as dedicated spotters shall be trained to enable them to effectively perform their task, including training on the applicable requirements of this rule.

(g) Training under this subrule shall be administered in accordance with R 408.41064(10).

(10) Devices originally designed by the manufacturer for use as a safety device, as specified in R 408.41040, operational aid, or a means to prevent power line contact or electrocution, when used to comply with this rule, shall meet the manufacturer's procedures for use and conditions of use.

TABLE A MINIMUM CLEARANCE DISTANCES	
Voltage (nominal, kV, alternating current)	Minimum clearance distance (feet)
up to 50	10
over 50 to 200	15
over 200 to 350	20
over 350 to 500	25
over 500 to 750	35
over 750 to 1,000	45
over 1,000	(as established by the utility owner or operator or registered professional engineer who is a qualified person with respect to electrical power transmission and distribution).
Note: The value that follows “to” is up to and includes that value. For example, over 50 to 200 means up to and including 200kV.	

R 408.41036b Power line safety over 350 kV.

Rule 1036b. The requirements of R 408.41036 and R 408.41036a apply to power lines over 350 kV except for the following:

(a) For power lines at or below 1000 kV, wherever the distance “20 feet” is specified, the distance “50 feet” shall be substituted.

(b) For power lines over 1000 kV, the minimum clearance distance shall be established by the utility owner or operator or registered professional engineer who is a qualified person with respect to electrical power transmission and distribution.

R 408.41036c Power line safety (all voltages); equipment operations closer than Table A zone.

Rule 1036c. (1) Equipment operations in which any part of the equipment, load line, or load, including rigging and lifting accessories, is closer than the minimum approach distance under Table A “Minimum Clearance Distances,” to an energized power line shall be prohibited, except where the employer demonstrates that all of the requirements in subrules (2) to (25) of this rule are met.

(2) The employer determines that it is infeasible to do the work without breaching the minimum approach distance under Table A “Minimum Clearance Distances.”

(3) The employer determines that, after consultation with the utility owner or operator, it is infeasible to deenergize and ground the power line or relocate the power line.

(4) Minimum clearance distance requirements. The power line owner or operator or registered professional engineer, who is a qualified person with respect to electrical power transmission and distribution, determines the minimum clearance distance that must be maintained to prevent electrical contact in light of the on-site conditions. The factors that shall be considered in making this determination include, but are not limited to, the following:

(a) Conditions affecting atmospheric conductivity.

(b) Time necessary to bring the equipment, load line, and load, including rigging and lifting accessories, to a complete stop.

- (c) Wind conditions.
- (d) Degree of sway in the power line.
- (e) Lighting conditions.
- (f) Other conditions affecting the ability to prevent electrical contact.

(5) Subrule (4) of this rule does not apply to work covered by Construction Safety Standard Part 16 “Power Transmission and Distribution,” as referenced in R 408.41003e. For such work, the minimum clearance distances specified in CS Part 16 Table 1 apply. Employers engaged in CS Part 16 work may work closer than the distances in CS Part 16 Table 1 where both the requirements of this rule and CS Part 16 R 408.41642(2) are met.

(6) A planning meeting with the employer and utility owner or operator, or registered professional engineer who is a qualified person with respect to electrical power transmission and distribution, is held to determine the procedures that shall be followed to prevent electrical contact and electrocution. At a minimum, these procedures must include the requirements in subrules (7) to (18) of this rule.

(7) If the power line is equipped with a device that automatically reenergizes the circuit in the event of a power line contact, before the work begins, the automatic reclosing feature of the circuit interrupting device shall be made inoperative if the design of the device permits.

(8) Use a dedicated spotter who is in continuous contact with the operator. The dedicated spotter must do all of the following:

(a) Be equipped with a visual aid to assist in identifying the minimum clearance distance. Examples of a visual aid include, but are not limited to, any of the following:

- (i) A clearly visible line painted on the ground.
- (ii) A clearly visible line of stanchions.
- (iii) A set of clearly visible line-of-sight landmarks such as a fence post behind the dedicated spotter and a building corner ahead of the dedicated spotter.

(b) Be positioned to effectively gauge the clearance distance.

(c) Where necessary, use equipment that enables the dedicated spotter to communicate directly with the operator.

(d) Give timely information to the operator so that the required clearance distance can be maintained.

(9) Use of an elevated warning line or barricade that is not attached to the crane in view of the operator, either directly or through video equipment, and equipped with flags or similar high-visibility markings to prevent electrical contact. This subrule does not apply to work covered by Construction Safety Standard Part 16 “Power Transmission and Distribution,” as referenced in R 408.41003e.

(10) The following apply to use of an insulating link or device:

(a) An insulating link or device shall be installed at a point between the end of the load line, or below, and the load.

(b) For work covered by Construction Safety Standard Part 16 “Power Transmission and Distribution,” as referenced in R 408.41003e, the requirement in subdivision (a) of this subrule, applies only when working inside the CS Part 16 Table 1 clearance distances.

(11) Use of nonconductive rigging if the rigging may be within the minimum clearance distances during operation, as specified in Table A “Minimum Clearance Distances.”

(12) If the equipment is equipped with a device that automatically limits range of movement, it shall be used and set to prevent any part of the equipment, load line, or load, including rigging and lifting accessories, from breaching the minimum approach distance established under subrules (4) and (5) of this rule.

(13) If a tag line is used, the tag line must be of the nonconductive type.

(14) Use of barricades forming a perimeter at least 10 feet away from the equipment to prevent unauthorized personnel from entering the work area. In areas where obstacles prevent the barricade from being at least 10 feet away, the barricade must be as far from the equipment as feasible.

(15) Workers other than the operator are prohibited from touching the load line above the insulating link or device and crane. Operators who remotely operate the equipment from the ground shall use either wireless controls that isolate the operator from the equipment or insulating mats that insulate the operator from the ground.

(16) Only personnel essential to the operation may be in the area of the crane and load.

(17) The equipment shall be properly grounded.

(18) Insulating line hose or cover-up shall be installed by the utility owner or operator except where such devices are unavailable for the line voltages involved.

(19) The procedures developed to comply with subrules (6) to (18) of this rule are documented and immediately available on-site.

(20) The equipment user and utility owner or operator, or registered professional engineer shall meet with the equipment operator and the other workers who must be in the area of the equipment or load to review the procedures that must be implemented to prevent breaching the minimum approach distance established in subrules (4) and (5) of this rule and prevent electrocution.

(21) The procedures developed to comply with subrules (6) to (18) of this rule are implemented.

(22) The utility owner or operator, or registered professional engineer and all employers of employees involved in the work shall identify 1 person who will direct the implementation of the procedures. The person identified under this subrule shall direct the implementation of the procedures and shall have the authority to stop work at any time to ensure safety.

(23) If a problem occurs implementing the procedures being used to comply with subrules (6) to (18) of this rule, or indicating that those procedures are inadequate to prevent electrocution, the employer shall safely stop operations and either develop new procedures to comply with subrules (6) to (18) of this rule, or have the utility owner or operator deenergize and visibly ground or relocate the power line before resuming work.

(24) Devices originally designed by the manufacturer for use as a safety device, as specified in R 408.41040, operational aid, or a means to prevent power line contact or electrocution, when used to comply with this rule, shall comply with the manufacturer's procedures for use and conditions of use.

(25) The employer shall train each operator and crew member assigned to work with the equipment in accordance with R 408.41036a.

#### R 408.41036d Power line safety with no load.

Rule 1036d. (1) This rule establishes procedures and criteria that must be met for equipment traveling under or near a power line on a construction site with no load. Equipment traveling on a construction site with a load must comply with 1 or all of the following rules as appropriate:

(a) R 408.41036a.

(b) R 408.41036b.

(c) R 408.41036d and R 408.41053f.

(2) The employer shall ensure that all of the following requirements are met:

(a) The boom or mast and boom or mast support system are lowered sufficiently to meet the requirements of this rule.

(b) The clearances specified in Table T “Minimum Clearance Distances While Traveling With No Load” of this rule are maintained.

(c) The effects of speed and terrain on equipment movement, including movement of the boom or mast, are considered so that those effects do not cause the minimum clearance distances specified in Table T of this rule to be breached.

(d) Dedicated spotter. If any part of the equipment while traveling is closer than 20 feet to the power line, the employer shall ensure that a dedicated spotter who is in continuous contact with the driver or operator is used. The dedicated spotter shall do all of the following:

(i) Be positioned to effectively gauge the clearance distance.

(ii) Where necessary, use equipment that enables the dedicated spotter to communicate directly with the operator.

(iii) Give timely information to the operator so that the required clearance distance can be maintained.

(e) Additional precautions for traveling in poor visibility. When traveling at night or in conditions of poor visibility, in addition to the measures specified in subdivisions (a) to (d) of this subrule, the employer shall ensure both of the following:

(i) The power lines are illuminated or another means of identifying the location of the lines is used.

(ii) A safe path of travel is identified and used.

TABLE T MINIMUM CLEARANCE DISTANCES WHILE TRAVELING WITH NO LOAD	
Voltage (nominal, kV, alternating current)	While traveling—minimum clearance distance (feet)
Up to 0.75	4
Over .75 to 50	6
Over 50 to 345	10
Over 345 to 750	16
Over 750 to 1,000	20
Over 1,000	(as established by the utility owner or operator or registered professional engineer who is a qualified person with respect to electrical power transmission and distribution).

## EQUIPMENT INSPECTION REQUIREMENTS

R 408.41037 Modified equipment inspection.

Rule 1037. (1) Equipment that has had modifications or additions that affect the safe operation of the equipment or capacity shall be inspected by a qualified person after such modifications and additions have been completed, prior to initial use. These modifications or additions may include a safety device or operational aid, critical part of a control system, power plant, braking

system, load-sustaining structural components, load hook, or in-use operating mechanism. The inspection shall meet both of the following requirements:

(a) The inspection shall assure that the modifications or additions have been done in accordance with the approval obtained pursuant to R 408.41083.

(b) The inspection shall include functional testing of the equipment.

(2) The employer shall ensure that equipment is not used until an inspection under this rule demonstrates that the requirements of subrule (1)(a) of this rule have been met.

#### R 408.41037a Repaired or adjusted equipment inspection.

Rule 1037a. (1) Equipment that has had a repair or adjustment that relates to safe operation shall be inspected by a qualified person after such a repair or adjustment has been completed, prior to initial use. These repairs and adjustments may include a safety device or operational aid, critical part of a control system, power plant, braking system, load-sustaining structural components, load hook, or in-use operating mechanism. The inspection shall meet all of the following requirements:

(a) The qualified person shall determine if the repair or adjustment meets manufacturer equipment criteria where applicable and available.

(b) Where manufacturer equipment criteria are unavailable or inapplicable, the qualified person shall do both of the following:

(i) Determine if a registered professional engineer (RPE) is needed to develop criteria for the repair or adjustment. If an RPE is not needed, the employer shall ensure that the criteria are developed by the qualified person. If an RPE is needed, the employer shall ensure that the criteria are developed by an RPE.

(ii) Determine if the repair or adjustment meets the criteria developed in accordance with subdivision (b)(i) of this subrule.

(c) The inspection shall include functional testing of the repaired or adjusted parts and other components that may be affected by the repair or adjustment.

(2) The employer shall ensure that equipment is not used until an inspection under this rule demonstrates that the repair or adjustment meets the requirements of subrule (1)(a) or, where applicable, subrule (1)(b) of this rule.

#### R 408.41037b Post-assembly inspection.

Rule 1037b. (1) Upon completion of assembly, a qualified person shall inspect the equipment to ensure that it is configured in accordance with manufacturer equipment criteria.

(2) When manufacturer equipment criteria are unavailable, a qualified person shall do both of the following:

(a) Determine if an RPE who is familiar with the type of equipment involved is needed to develop criteria for the equipment configuration. If an RPE is not needed, the employer shall ensure that the criteria are developed by the qualified person. If an RPE is needed, the employer shall ensure that the criteria are developed by an RPE.

(b) Determine if the equipment meets the criteria developed in accordance with subdivision (a) of this subrule.

(3) Equipment shall not be used until an inspection under this rule demonstrates that the equipment is configured in accordance with the applicable criteria.

#### R 408.41037c Each shift inspection.

Rule 1037c. (1) A competent person shall begin a visual inspection prior to each shift the equipment is to be used. The inspection shall be completed before or during that shift and shall

consist of observation for apparent deficiencies. Taking apart equipment components and booming down is not required as part of this inspection unless the results of the visual inspection or trial operation indicate that further investigation necessitates taking apart equipment components or booming down. Determinations made in conducting the inspection shall be reassessed in light of observations made during operation. At a minimum, the inspection shall include all of the following:

- (a) Control mechanisms for maladjustments interfering with proper operation.
  - (b) Control and drive mechanisms for apparent excessive wear of components and contamination by lubricants, water, or other foreign matter.
  - (c) Air, hydraulic, and other pressurized lines for deterioration or leakage, particularly those that flex in normal operation.
  - (d) Hydraulic system for proper fluid level.
  - (e) Hooks and latches for deformation, cracks, excessive wear, or damage such as from chemicals or heat.
  - (f) Wire rope reeving for compliance with the manufacturer's specifications.
  - (g) Wire rope, in accordance with R 408.41038.
  - (h) Electrical apparatus for malfunctioning, signs of apparent excessive deterioration, dirt or moisture accumulation.
  - (i) Tires, when in use, for proper inflation and condition.
  - (j) Ground conditions around the equipment for proper support including ground settling under and around outriggers or stabilizers and supporting foundations ground water accumulation or similar conditions. This rule does not apply to the inspection of ground conditions for railroad tracks and their underlying support when the railroad tracks are part of the general railroad system of transportation that is regulated according to the Federal Railroad Administration under 49 CFR part 213 as adopted in R 408.41003f.
  - (k) The equipment for level position within the tolerances specified by the equipment manufacturer's recommendations, both before each shift and after each move and setup.
  - (l) Operator cab windows for significant cracks, breaks, or other deficiencies that would hamper the operator's view.
  - (m) Rails rail stops rail clamps, and supporting surfaces when the equipment has rail traveling. This rule does not apply to the inspection of rails rail stops rail clamps, and supporting surfaces when the railroad tracks are part of the general railroad system of transportation that is regulated according to the Federal Railroad Administration under 49 CFR part 213 as adopted in R 408.41003f.
  - (n) Safety devices and operational aids for proper operation.
- (2) If any deficiency in subrule (1)(a) to (m) of this rule, or in additional inspection items required to be checked for specific types of equipment in accordance with other rules of this standard is identified, a competent person shall make an immediate determination as to whether the deficiency constitutes a safety hazard. If the deficiency is determined to constitute a safety hazard, the employer shall ensure that the equipment is taken out of service until it is corrected, as specified in R 408.41053 to R 408.41053g.
- (3) If there is any deficiency in safety devices and operational aids for proper operation identified, the employer shall ensure that the action specified in R 408.41040 and R 408.41052 to R 408.41052b is taken prior to using the equipment.

R 408.41037d Monthly inspection.

Rule 1037d. (1) An employer shall ensure that equipment that is in service is inspected monthly in accordance with R 408.41037c.

(2) Equipment shall not be used until an inspection under these rules demonstrates that no corrective action under R 408.41037c (2) and (3) is required.

(3) The following information shall be documented and maintained by the employer that conducts the inspection:

(a) The items checked and the results of the inspection.

(b) The name and signature of the person who conducted the inspection and the date.

(4) The document required in subrule (3) of this rule shall be retained for a minimum of 3 months.

R 408.41037e Annual and comprehensive inspection.

Rule 1037e. (1) At least every 12 months, a qualified person shall inspect the equipment in accordance with R 408.41037c, except that the corrective action set forth in subrules (3), (4), and (5) of this rule shall apply in place of the corrective action required by R 408.41037c (2) and (3).

(2) In addition to the requirement in subrule (1) of this rule, at least every 12 months, the equipment shall be inspected by a qualified person. Disassembly shall be required, as necessary, to complete the inspection. The equipment and equipment structure including the boom and, if equipped, the jib, shall be inspected for all of the following:

(a) Deformed, cracked, or significantly corroded structural members.

(b) Loose, failed, or significantly corroded bolts, rivets, and other fasteners.

(c) Cracked welds.

(d) Sheaves and drums for cracks or significant wear.

(e) Parts such as pins, bearings, shafts, gears, rollers, and locking devices for distortion, cracks, or significant wear.

(f) Brake and clutch system parts, linings, pawls, and ratchets for excessive wear.

(g) Safety devices and operational aids for proper operation, including significant inaccuracies.

(h) Gasoline, diesel, electric, or other power plants for proper operation and safety-related problems or conditions, such as a leaking exhaust and an emergency shut-down feature.

(i) Chains and chain drive sprockets for excessive wear of sprockets and excessive chain stretch.

(j) Travel steering, brakes, and locking devices, for proper operation.

(k) Tires for damage or excessive wear.

(l) Hydraulic, pneumatic, and other pressurized hoses, fittings, and tubing, as follows:

(i) A flexible hose or its junction with the fittings for indications of leaks.

(ii) Threaded or clamped joints for leaks.

(iii) Outer covering of the hose for blistering, abnormal deformation, or other signs of failure or impending failure.

(iv) Outer surface of a hose, rigid tube, or fitting for indications of excessive abrasion or scrubbing.

(m) Hydraulic and pneumatic pumps and motors, as follows:

(i) Performance indicators for unusual noises or vibration, low operating speed, excessive heating of the fluid, or low pressure.

(ii) Loose bolts or fasteners.

(iii) Shaft seals and joints between pump sections for leaks.

(n) Hydraulic and pneumatic valves, as follows:

(i) Spools for sticking, improper return to neutral, and leaks.

(ii) Leaks.

(iii) Valve housing cracks.

(iv) Relief valves for failure to reach correct pressure. A manufacturer procedure for checking pressure, must be followed.

(o) Hydraulic and pneumatic cylinders, as follows:

(i) Drifting caused by fluid leaking across the piston.

(ii) Rod seals and welded joints for leaks.

(iii) Cylinder rods for scores, nicks, or dents.

(iv) Case or barrel for significant dents.

(v) Rod eyes and connecting joints that are loose or deformed.

(p) Outrigger or stabilizer pads or floats for excessive wear or cracks.

(q) Slider pads for excessive wear or cracks.

(r) Electrical components and wiring for cracked or split insulation and loose or corroded terminations.

(s) Warning labels and decals originally supplied with the equipment by the manufacturer or otherwise required under this standard that are missing or unreadable.

(t) Originally equipped operator seat or equivalent that are missing.

(u) Operator seat that is unserviceable.

(v) Originally equipped steps, ladders, handrails, and guards that are missing.

(w) Steps, ladders, handrails, and guards that are in unusable or unsafe condition.

(2) The inspection required in subrule (1) of this rule shall include functional testing of the equipment as configured to determine if it is functioning properly.

(3) If any deficiency is identified during the inspection, a qualified person shall make an immediate determination as to whether the deficiency constitutes a safety hazard or, though not yet a safety hazard, needs to be monitored in the monthly inspections.

(4) If the qualified person determines that a deficiency is a safety hazard, the employer shall ensure that the equipment is taken out of service until it has been corrected, except when temporary alternative measures are implemented as specified in R 408.41052a or R 408.41084c. See R 408.41053.

(5) If the qualified person determines that, though not presently a safety hazard, the deficiency needs to be monitored, the employer shall ensure that the deficiency is checked in the monthly inspections.

(6) Documentation of annual inspection. The following information shall be documented, maintained, and retained for a minimum of 12 months by the employer that conducts the inspection:

(a) The items checked and the results of the inspection.

(b) The name and signature of the person who conducted the inspection and the date.

#### R 408.41037f Additional inspection requirements.

Rule 1037f. (1) Where the severity of use or conditions is such that there is a reasonable probability of damage or excessive wear, such as loading, or shock loading, that may have exceeded rated capacity, or prolonged exposure to a corrosive atmosphere, the employer shall stop using the equipment and a qualified person shall do all of the following:

(a) Inspect the equipment for structural damage to determine if the equipment can continue to be used safely.

(b) In light of the use or conditions determine whether any items and conditions listed in R 408.41037e need to be inspected. If an inspection is needed, the qualified person shall inspect those items and conditions.

(c) If a deficiency is found, the employer shall follow the requirements in R 408.41037e (3) to (5).

(2) Equipment that has been idle for 3 months or more shall be inspected by a qualified person in accordance with the requirements of R 408.41037d before initial use.

(3) Any part of a manufacturer's procedures regarding inspections that relate to safe operation that is more comprehensive or has a more frequent schedule of inspection than the requirements of this rule shall be followed, such as the operation of any of the following:

- (a) Safety devices.
- (b) Operational aids.
- (c) Critical part of a control system.
- (d) Power plants.
- (e) Braking systems.
- (f) Load-sustaining structural components.
- (g) Load hooks.
- (h) In-use operating mechanisms.

(4) All documents produced under this rule shall be available during the applicable document retention period to all persons who conduct inspections under this rule.

## WIRE ROPE INSPECTION REQUIREMENTS

R 408.41038 Each shift inspection.

Rule 10138. (1) A wire rope that is in continuous service shall be visually inspected by a competent person prior to each shift. A visual inspection shall consist of observing all rope, including running and standing, that can be expected to be in use during the day's operations. The purpose of the visual observations is to discover damage that may be an immediate hazard. Untwisting or opening of wire rope or booming down is not required as part of this inspection.

(2) Category I. Apparent deficiencies in this category include any of the following:

(a) Significant distortion of the rope, including any of the following:

- (i) Kinking.
- (ii) Crushing.
- (iii) Unstranding.
- (iv) Birdcaging.
- (v) Signs of core failure or steel core protrusion between the outer strands.

(b) Electric arc damage, from a source other than power lines, or heat damage.

(c) Improperly applied end connections.

(d) Significantly corroded, cracked, bent, or worn end connections, such as from severe service.

(3) Category II. Apparent deficiencies in this category are any of the following:

(a) Visible broken or cut wires.

(b) In running wire ropes, 6 randomly distributed broken wires in 1 rope lay or 3 broken wires in 1 strand in 1 rope lay, where a rope lay is the length along the rope in which 1 strand makes a complete revolution around the rope.

(c) In rotation-resistant ropes, 2 randomly distributed broken wires in 6 rope diameters or 4 randomly distributed broken wires in 30 rope diameters.

(d) In pendants or standing ropes, there are more than 2 broken wires in 1 rope lay in sections beyond end connections or more than 1 broken wire at an end connection.

(e) A diameter reduction of more than 5% from nominal diameter.

(4) Category III. Apparent deficiencies in this category include any of the following:

(a) In rotation resistant wire rope, core protrusion or other distortion indicating core failure.

(b) Prior electrical contact with a power line.

(c) A broken strand.

(5) Critical review items. The competent person shall give particular attention to all of the following:

- (a) Rotation resistant wire rope in use.
- (b) Wire rope being used for boom hoists and luffing hoists, particularly at reverse bends.
- (c) Wire rope at flange points, crossover points, and repetitive pickup points on drums.
- (d) Wire rope at or near terminal ends.
- (e) Wire rope in contact with saddles, equalizer sheaves, or other sheaves where rope travel is limited.

(6) All of the following require removal from service:

(a) If a deficiency in Category I is identified, a competent person shall make an immediate determination as to whether the deficiency constitutes a safety hazard. If the competent person determines a deficiency constitutes a safety hazard, operations involving use of the wire rope in question shall be prohibited until 1 of the following occurs:

- (i) The wire rope is replaced, as specified in R 408.41053 to R 408.41053g.
- (ii) If the deficiency is localized, the problem shall be corrected by severing the wire rope in 2. The undamaged portion may continue to be used. Joining lengths of wire rope by splicing shall be prohibited. If a rope is shortened under this subrule, the employer shall ensure that the drum has 2 wraps of wire when the load, boom, or both is in the lowest position.

(b) If a deficiency in Category II is identified, operations involving use of the wire rope in question shall be prohibited until 1 of the following occurs:

(i) The employer complies with either the wire rope manufacturer's established criterion for removal from service or a different criterion that the wire rope manufacturer has approved in writing for that specific wire rope, as specified in R 408.41053 to R 408.41053g.

(ii) The wire rope is replaced, as specified in R 408.41053 to R 408.41053g.

(iii) If the deficiency is localized the problem is corrected by severing the wire rope in 2. The undamaged portion may continue to be used. Joining lengths of wire rope by splicing shall be prohibited. If a rope is shortened under this subrule the employer shall ensure that the drum has 2 wraps of wire when the load boom or both is in the lowest position.

(c) If a deficiency in Category III is identified, operations involving use of the wire rope in question shall be prohibited until 1 of the following occurs:

(i) The wire rope is replaced, as specified in R 408.41053 to R 408.41053g.

(ii) If the deficiency, other than power line contact, is localized, the problem is corrected by severing the wire rope in 2. The undamaged portion may continue to be used. Joining lengths of wire rope by splicing shall be prohibited. Repair of wire rope that contacted an energized power line shall also be prohibited. If a rope is shortened under this subrule, the employer shall ensure that the drum has 2 wraps of wire when the load, boom, or both is in the lowest position. The defective portion of a wire rope that is removed shall not be used for other load-carrying service.

(d) Where a wire rope is required to be removed from service under this rule, either the equipment as a whole or the hoist with that wire rope shall be tagged-out, in accordance with R 408.41053b(1), until the wire rope is repaired or replaced.

R 408.41038a Monthly inspection.

Rule 1038a. (1) An employer shall ensure that a monthly inspection is conducted in accordance with R 408.41038.

(2) The inspection required in subrule (1) of this rule shall include any deficiencies that the qualified person who conducts the annual inspection determines under R 408.41038b(3)(b) shall be monitored.

(3) Wire ropes on equipment shall not be used until an inspection under this rule demonstrates that no corrective action under R 408.41038(6) is required.

(4) The inspection required by this rule shall be documented according to R 408.41037d (3) and (4).

#### R 408.41038b Annual and comprehensive inspection.

Rule 1038b. (1) An employer shall ensure that at least every 12 months, wire ropes in use on equipment shall be inspected by a qualified person in accordance with R 408.41038.

(2) In addition to the requirement in subrule (1) of this rule, at least every 12 months, the wire ropes in use on equipment shall be inspected by a qualified person, as follows:

(a) The inspection shall be for deficiencies of the types listed in R 408.41038 (2), (3), and (4).

(b) The inspection shall be complete and thorough, covering the surface of the entire length of the wire ropes, with particular attention given to all of the following:

(i) Critical review items listed in R 408.41038(5).

(ii) Those sections that are normally hidden during shift and monthly inspections.

(iii) Wire rope subject to reverse bends.

(iv) Wire rope passing over sheaves.

(c) Exception. If an inspection under subrule (2) of this rule is not feasible due to existing set-up and configuration of the equipment, such as where an assist crane is needed, or due to site conditions such as a dense urban setting, the inspections shall be conducted as soon as it becomes feasible, but no longer than an additional 6 months for running ropes and at the time of disassembly for standing ropes.

(3) If a deficiency is identified, a qualified person shall make an immediate determination as to whether the deficiency constitutes a safety hazard. All of the following apply if a deficiency is identified:

(a) If the deficiency is determined to constitute a safety hazard, operations involving use of the wire rope in question shall be prohibited until 1 of the following occurs:

(i) The wire rope is replaced, as specified in R 408.41053 to R 408.41053g.

(ii) If the deficiency is localized, the problem is corrected by severing the wire rope in 2. The undamaged portion may continue to be used. Joining lengths of wire rope by splicing shall be prohibited. If a rope is shortened under this subrule, the employer shall ensure that the drum has 2 wraps of wire when the load, boom, or both is in its lowest position.

(b) If the qualified person determines that, though not presently a safety hazard, the deficiency needs to be monitored, the employer shall ensure that the deficiency is checked in the monthly inspections.

(4) The inspection required by this rule shall be documented according to R 408.41037e(6).

#### R 408.41038c Additional inspection requirements.

Rule 1038c. (1) Rope lubricants that are of the type that hinder inspection shall not be used.

(2) All documents produced under these rules shall be available during the applicable document retention period to all persons who conduct inspections under these rules.

### WIRE ROPE SELECTION AND INSTALLATION

#### R 408.41039 Wire rope selection and installation criteria.

Rule 1039. (1) Original equipment wire rope and replacement wire rope shall be selected and installed in accordance with this rule. Selection of replacement wire rope shall be in accordance

with the recommendations of the wire rope manufacturer, the equipment manufacturer, or a qualified person.

(2) Wire rope design criteria. Wire rope, other than rotation resistant rope, shall comply with either of the following:

(a) Option (1). Wire rope shall comply with section 5–1.7.1 of ANSI/ASME B30.5 “Mobile and Locomotive Cranes,” 2004 edition, as adopted in R 408.41003a, except that section 5-1.7.1 paragraph (c) shall not apply.

(b) Option (2). Wire rope shall be designed to have, in relation to the equipment’s rated capacity, a sufficient minimum breaking force and design factor so that compliance with the applicable inspection provisions in R 408.41038 to R 408.41038c shall be an effective means of preventing sudden rope failure.

(3) Wire rope shall be compatible with the safe functioning of the equipment.

(4) Both of the following apply to boom hoist reeving:

(a) Fiber core ropes shall not be used for boom hoist reeving, except for derricks.

(b) Rotation resistant ropes shall be used for boom hoist reeving only where the requirements of R 408.41039a(4) are met.

#### R 408.41039a Rotation resistant ropes.

Rule 1039a (1) Type I rotation resistant wire rope (Type I) means stranded rope constructed to have little or no tendency to rotate or, if guided, transmits little or no torque. Type I has at least 15 outer strands and comprises an assembly of at least 3 layers of strands laid helically over a center in 2 operations. The direction of lay of the outer strands is opposite to that of the underlying layer.

(2) Type II rotation resistant wire rope (Type II) means stranded rope constructed to have significant resistance to rotation. Type II has at least 10 outer strands and comprises an assembly of 2 or more layers of strands laid helically over a center in 2 or 3 operations. The direction of lay of the outer strands is opposite to that of the underlying layer.

(3) Type III rotation resistant wire rope (Type III) means stranded rope constructed to have limited resistance to rotation. Type III has no more than 9 outer strands, and comprises an assembly of 2 layers of strands laid helically over a center in 2 operations. The direction of lay of the outer strands is opposite to that of the underlying layer.

(4) Rotation resistant rope requirements. All of the following requirements apply to rotation resistant rope:

(a) Types II and III with an operating design factor of less than 5 shall not be used for duty cycle or repetitive lifts.

(b) Rotation resistant ropes, including Types I, II, and III, shall have an operating design factor of not less than 3.5.

(c) Type I shall have an operating design factor of not less than 5, except where the wire rope manufacturer and the equipment manufacturer approve the design factor, in writing.

(d) Types II and III shall have an operating design factor of not less than 5, except where the requirements of subrule (8) of this rule are met.

(5) When Types II and III with an operating design factor of less than 5 are used for non-duty cycle, non-repetitive lifts, the following requirements shall be met for each lifting operation:

(a) A qualified person shall inspect the rope in accordance with R 408.41038. The rope shall be used only if the qualified person determines that there are no deficiencies constituting a hazard. In making this determination, more than 1 broken wire in any 1 rope lay is considered a hazard.

(b) Operations shall be conducted in a manner and at speeds so as to minimize dynamic effects.

(c) Each lift made under subrule (5) of this rule shall be recorded in the monthly and annual inspection documents. Prior uses shall be considered by the qualified person in determining whether to use the rope again.

(6) Rotation resistant ropes shall not be used for boom hoist reeving, except where the requirements of subrule (10) of this rule are met.

(7) Rotation resistant ropes may be used as boom hoist reeving when load hoists are used as boom hoists for attachments, such as luffing attachments or boom and mast attachment systems. Under these conditions, all of the following requirements shall be met:

(a) The drum shall provide a first layer rope pitch diameter of not less than 18 times the nominal diameter of the rope used.

(b) The requirements in R 408.41060 (1) and (2), irrespective of the date of manufacture of the equipment, and R 408.41060(3).

(c) The requirements in ANSI/ASME B30.5 “Mobile and Locomotive Cranes,” 2004 edition, sections 5–1.3.2 (a), (a)(2) through (a)(4), (b) and (d), as adopted in R 408.41003a, except that the minimum pitch diameter for sheaves used in multiple rope reeving is 18 times the nominal diameter of the rope used, instead of the value of 16 specified in section 5–1.3.2 (d).

(d) All sheaves used in the boom hoist reeving system shall have a rope pitch diameter of not less than 18 times the nominal diameter of the rope used.

(e) The operating design factor for the boom hoist reeving system shall be not less than 5.

(f) The operating design factor for these ropes shall be the total minimum breaking force of all parts of rope in the system divided by the load imposed on the rope system when supporting the static weights of the structure and the load within the equipment’s rated capacity.

(g) When provided, a power-controlled lowering system shall be capable of handling rated capacities and speeds as specified by the manufacturer.

R 408.41039b Wire rope clips; socketing; seizing.

Rule 1039b (1) Wire rope clips used in conjunction with wedge sockets shall be attached to the unloaded dead end of the rope only, except that the use of devices specifically designed for dead-ending rope in a wedge socket are permitted.

(2) Socketing shall be done in the manner specified by the manufacturer of the wire rope or fitting.

(3) Prior to cutting a wire rope, seizings shall be placed on each side of the point to be cut. The length and number of seizings shall be in accordance with the wire rope manufacturer’s instructions.

## SAFETY DEVICES

R 408.41040 Safety devices.

Rule 1040. (1) Safety devices shall be required on all equipment covered by this rule, unless otherwise specified as follows:

(a) Crane level indicators shall be as follows:

(i) The equipment shall have a crane level indicator that is either built into the equipment or is available on the equipment.

(ii) If a built-in crane level indicator is not working properly, it shall be tagged-out or removed. If a removable crane level indicator is not working properly, it shall be removed.

(iii) The requirements in this rule do not apply to portal cranes, derricks, floating cranes or derricks, and land cranes or derricks on barges, pontoons, vessels, or other means of flotation.

(b) Boom stops, except for derricks and hydraulic booms.

(c) Jib stops, if a jib is attached, except for derricks.

- (2) Equipment with foot pedal brakes shall have locks.
- (3) Hydraulic outrigger jacks and hydraulic stabilizer jacks shall have an integral holding device or check valve.
- (4) Equipment on rails shall have rail clamps and rail stops, except for portal cranes
- (5) Both of the following apply to horns:
  - (a) The equipment shall have a horn that is either built into the equipment or is on the equipment and immediately available to the operator.
  - (b) If a built-in horn is not working properly, it shall be tagged-out or removed. If a removable horn is not working properly, it shall be removed.
- (6) Proper operation required. Operations shall not begin unless all of the devices listed in this rule are in proper working order. If a device stops working properly during operations, the operator shall safely stop operations. If any of the devices listed in this rule are not in proper working order, the equipment shall be taken out of service and operations shall not resume until the device is again working properly as specified in R 408.41053. Alternative measures shall not be used.

R 408.41041a Rescinded.

R 408.41051a Rescinded.

## OPERATIONAL AIDS

R 408.41052 Operational aids.

Rule 1052. (1) The devices listed in these rules are required on all equipment covered by this part, unless otherwise specified.

- (a) The requirements in R 408.41052b (2), (3), and (4) do not apply to articulating cranes.
- (b) The requirements in R 408.41052a(4), R 408.41052b (2) and (5) apply only to those digger derricks manufactured after November 8, 2011.

(2) Operations shall not begin unless the listed operational aids are in proper working order, except when an operational aid is being repaired, the employer shall use the specified temporary alternative measures. The time periods permitted for repairing defective operational aids are specified in R 408.41052a(2) and R 408.41052b. More protective alternative measures specified by the crane or derrick manufacturer, if any, shall be followed.

(3) If a listed operational aid stops working properly during operations, the operator shall safely stop operations until the temporary alternative measures are implemented or the device is again working properly. If a replacement part is no longer available, the use of a substitute device that performs the same type of function is permitted and is not considered a modification under R 408.41083.

R 408.41052a Category I operational aids and alternative measures.

Rule 1052a. (1) Operational aids listed in these rules that are not working properly shall be repaired not later than 7 calendar days after the deficiency occurs.

Exception: If the employer documents that it has ordered the necessary parts within 7 calendar days of the occurrence of the deficiency, the repair shall be completed within 7 calendar days of receipt of the parts. See R 408.41053d(1) for additional requirements.

- (2) Boom hoist limiting devices. The following apply to boom hoist limiting devices:

(a) For equipment manufactured after December 16, 1969, a boom hoist limiting device shall be required. If temporary alternative measures are necessary, 1 or more of the following methods shall be used:

(i) Use a boom angle indicator.

(ii) Clearly mark the boom hoist cable so that it can easily be seen by the operator at a point that will give the operator sufficient time to stop the hoist to keep the boom within the minimum allowable radius. In addition, install mirrors or remote video cameras and displays if necessary for the operator to see the mark.

(iii) Clearly mark the boom hoist cable so that it can easily be seen by a spotter at a point that will give the spotter sufficient time to signal the operator and have the operator stop the hoist to keep the boom within the minimum allowable radius.

(b) If the equipment was manufactured on or before December 16, 1969, and is not equipped with a boom hoist limiting device, at least 1 of the measures in subrule (2)(a)(i) to (iii) of this rule shall be used.

(3) Luffing jib limiting device. Equipment with a luffing jib shall have a luffing jib limiting device. Temporary alternative measures shall be the same as in subrule (2)(a) of this rule, except to limit the movement of the luffing jib rather than the boom hoist.

(4) Anti two-blocking devices – telescopic boom cranes. Telescopic boom cranes manufactured after February 28, 1992 shall be equipped with a device that automatically prevents damage from contact between the load block, overhaul ball, or similar component, and the boom tip or fixed upper block or similar component. The device shall prevent this damage at all points where two-blocking could occur. Temporary alternative measures: Clearly mark the cable so that it can easily be seen by the operator at a point that will give the operator sufficient time to stop the hoist to prevent two-blocking, and use a spotter when extending the boom.

(5) Anti two-blocking devices – lattice boom cranes. The following apply to lattice boom cranes:

(a) Lattice boom cranes manufactured after February 28, 1992 shall be equipped with a device that either automatically prevents damage and load failure from contact between the load block, overhaul ball, or similar component, and the boom tip or fixed upper block or similar component, or warns the operator in time for the operator to prevent two-blocking. The device shall either prevent this damage or failure, or provide adequate warning for all points where two-blocking may occur.

(b) Lattice boom cranes and derricks manufactured after November 8, 2011 shall be equipped with a device that automatically prevents damage and load failure from contact between the load block, overhaul ball, or similar component, and the boom tip or fixed upper block or similar component. The device shall prevent this damage or failure at all points where two-blocking may occur.

(c) Exception. The requirements in subrule (5)(a) and (b) of this rule do not apply to lattice boom equipment when used for dragline, clamshell or grapple, magnet, drop ball, container handling, concrete bucket, or marine operations that do not involve hoisting personnel and pile driving work.

(d) Temporary alternative measures. Clearly mark the cable so that it can easily be seen by the operator at a point that will give the operator sufficient time to stop the hoist to prevent two-blocking, or use a spotter.

(6) Anti two-blocking devices – articulating cranes. Articulating cranes manufactured after December 31, 1999 that are equipped with a load hoist shall be equipped with a device that automatically prevents damage from contact between the load block, overhaul ball, or similar component, and the boom tip or fixed upper block or similar component. The device shall

prevent this damage at all points where two-blocking may occur. Temporary alternative measures: When two-blocking may only occur with movement of the load hoist, clearly mark the cable so that it can easily be seen by the operator at a point that will give the operator sufficient time to stop the hoist to prevent two-blocking, or use a spotter. When two-blocking may occur without movement of the load hoist, clearly mark the cable so that it can easily be seen by the operator at a point that shall give the operator sufficient time to stop the hoist to prevent two-blocking, and use a spotter when extending the boom.

R 408.41052b Category II operational aids and alternative measures.

Rule 1052b. (1) Operational aids listed in subrules (2) to (6) of this rule that are not working properly shall be repaired not later than 30 calendar days after the deficiency occurs.

Exception: If the employer documents that it has ordered the necessary parts within 7 calendar days of the occurrence of the deficiency and the part is not received in time to complete the repair in 30 calendar days, the repair shall be completed within 7 calendar days of receipt of the parts. See R 408.41053d(1) for additional requirements.

(2) Boom angle or radius indicator. The equipment shall have a boom angle or radius indicator readable from the operator's station. Temporary alternative measures: Radii or boom angle shall be determined by measuring the radii or boom angle with a measuring device.

(3) Jib angle indicator if the equipment has a luffing jib. Temporary alternative measures: Radii or jib angle shall be determined by ascertaining the main boom angle and then measuring the radii or jib angle with a measuring device.

(4) Boom length indicator if the equipment has a telescopic boom, except where the rated capacity is independent of the boom length. Temporary alternative measures: One or more of the following methods shall be used:

(a) Mark the boom with measured marks to calculate boom length.

(b) Calculate boom length from boom angle and radius measurements.

(c) Measure the boom with a measuring device.

(5) Load weighing and similar devices. The following apply to load weighing and similar devices:

(a) Equipment, other than derricks and articulating cranes, manufactured after March 29, 2003 with a rated capacity over 6,000 pounds shall have at least 1 of the following: a load weighing device, a load moment or rated capacity indicator, or a load moment or rated capacity limiter. Temporary alternative measures: The weight of the load shall be determined from a source recognized by the industry, such as the load's manufacturer, or by a calculation method recognized by the industry, such as calculating a steel beam from measured dimensions and a known per foot weight. This information shall be provided to the operator prior to the lift.

(b) Articulating cranes manufactured after November 8, 2011 shall have at least 1 of the following: an automatic overload prevention device, a load weighing device, a load moment or rated capacity indicator, or a load moment rated capacity limiter. Temporary alternative measures: The weight of the load shall be determined from a source recognized by the industry, such as the load's manufacturer, or by a calculation method recognized by the industry, such as calculating a steel beam from measured dimensions and a known per foot weight. This information shall be provided to the operator prior to the lift.

(6) Both of the following devices shall be required on equipment manufactured after November 8, 2011:

(a) Outrigger or stabilizer position, horizontal beam extension, sensor or monitor if the equipment has outriggers or stabilizers. Temporary alternative measures: The operator shall

verify that the position of the outriggers or stabilizers is correct in accordance with manufacturer procedures before beginning operations requiring outrigger or stabilizer deployment.

(b) Hoist drum rotation indicator if the equipment has a hoist drum not visible from the operator's station. Temporary alternative measures: Mark the drum to indicate the rotation of the drum. In addition, install mirrors or remote video cameras and displays if necessary for the operator to see the mark.

## OPERATIONS

### R 408.41053 Operation procedures.

Rule 1053. (1) The employer shall comply with all manufacturer procedures applicable to the operational functions of equipment, including its use with attachments.

(2) The following apply to unavailable operation procedures:

(a) When the manufacturer procedures are unavailable, the employer shall develop and ensure compliance with all procedures necessary for the safe operation of the equipment and attachments.

(b) Procedures for the operational controls shall be developed by a qualified person.

(c) Procedures related to the capacity of the equipment shall be developed and signed by a registered professional engineer familiar with the equipment.

(3) The following apply to accessibility of procedures:

(a) The procedures applicable to the operation of the equipment, including rated capacities, load charts, recommended operating speeds, special hazard warnings, instructions, and operator's manual, shall be readily available in the cab at all times for use by the operator.

(b) When rated capacities are available in the cab only in electronic form and in the event of a failure that makes the rated capacities inaccessible, the operator shall immediately cease operations or follow safe shut-down procedures until the rated capacities, in electronic or other form, are available.

(4) The operator shall not engage in any practice or activity that diverts his or her attention while actually engaged in operating the equipment, such as the use of cellular phones other than when used for signal communications.

### R 408.41053a Leaving equipment unattended.

Rule 1053a. (1) The operator shall not leave the controls while the load is suspended, except when all of the following are met:

(a) The operator remains adjacent to the equipment and is not engaged in any other duties.

(b) The load is to be held suspended for a period of time exceeding normal lifting operations.

(c) The competent person determines that it is safe and implements measures necessary to restrain the boom hoist and telescoping, load, swing, and outrigger or stabilizer functions.

(d) Barricades or caution lines, and notices, are erected to prevent all employees from entering the fall zone. No employees, including those listed in R 408.41058 (2)(a) to (c) and (4) or (5), are permitted in the fall zone.

(2) The provisions in this rule do not apply to working gear, such as slings, spreader bars, ladders, and welding machines, where the weight of the working gear is negligible relative to the lifting capacity of the equipment as positioned, and the working gear is suspended over an area other than an entrance or exit.

### R 408.41053b Tagging out-of-service equipment.

Rule 1053b. (1) When the employer has taken the equipment out of service, a tag shall be placed in the cab stating that the equipment is out of service and is not to be used. When the employer has taken a function out of service, the employer shall ensure that a tag is placed in a conspicuous position stating that the function is out of service and shall not be used.

(2) The following apply to response to “do not operate” and tag-out signs:

(a) If there is a warning sign, such as a tag-out or maintenance, and do not operate, on the equipment or starting control, the operator shall not activate the switch or start the equipment until the sign has been removed by a person authorized to remove it, or until the operator has verified both of the following:

(i) No one is servicing, working on, or otherwise in a dangerous position on the machine.

(ii) The equipment has been repaired and is working properly.

(b) If there is a warning sign, tag-out or maintenance, and do not operate, on any other switch or control, the operator shall not activate that switch or control until the sign has been removed by a person authorized to remove it, or until the operator has verified that the requirements in subrule (2)(a)(i) and (ii) of this rule have been met.

R 408.41053c Engine start up; stop signal; storm warnings.

Rule 1053c. (1) Before starting the engine, the operator shall verify that all controls are in the proper starting position and that all personnel are in the clear.

(2) The operator shall obey a stop or emergency stop signal, irrespective of who gives it.

(3) When a local storm warning has been issued, the competent person shall determine whether it is necessary to implement manufacturer recommendations for securing the equipment.

R 408.41053d Equipment adjustments or repairs.

Rule 1053d. (1) If the employer or competent person determines that equipment adjustments or repairs are necessary, both of the following shall be done:

(a) The operator shall, in writing, promptly inform the person designated by the employer to receive such information and, where there are successive shifts, communicate to the next operator.

(b) The employer shall notify all affected employees, at the beginning of each shift, of the necessary adjustments or repairs and all alternative measures.

(2) Safety devices and operational aids shall not be used as a substitute for the exercise of professional judgment by the operator.

(3) If the competent person determines that there is a slack rope condition requiring respooling of the rope, the employer or competent person shall verify before starting to lift that the rope is seated on the drum and in the sheaves as the slack is removed.

(4) The competent person shall adjust the equipment, or operations, or both, to address the effect of wind, ice, and snow on equipment stability and rated capacity.

R 408.41053e Compliance with rated capacity.

Rule 1053e. (1) The equipment shall not be operated in excess of its rated capacity.

(2) The operator shall not be required to operate the equipment in a manner that would violate subrule (1) of this rule.

(3) Load weight. The operator shall verify that the load is within the rated capacity of the equipment by either or both of the following methods:

(a) The weight of the load is determined from a source recognized by the industry such as the load’s manufacturer, or by a calculation method recognized by the industry such as calculating a steel beam from measured dimensions and a known per foot weight, or by other equally reliable

means. In addition, when requested by the operator, this information must be provided to the operator prior to the lift.

(b) The operator begins hoisting the load to determine if it exceeds 75% of the maximum rated capacity at the longest radius that is used during the lift operation by using a load weighing device, load moment indicator, rated capacity indicator, or rated capacity limiter. If it does, the operator shall not proceed with the lift until he or she verifies the weight of the load in accordance with subdivision (a) of this subrule.

(4) The operator shall not permit the boom or other parts of the equipment to contact any obstruction.

(5) The operator shall not use the equipment to drag or pull loads sideways.

(6) On wheel-mounted equipment, no loads shall be lifted over the front area, except as permitted by the manufacturer.

(7) The operator shall test the brakes each time a load that is 90% or more of the maximum line pull is handled by lifting the load a few inches and applying the brakes. In duty cycle and repetitive lifts where each lift is 90% or more of the maximum line pull, this requirement shall apply to the first lift but not to successive lifts.

(8) Neither the load nor the boom shall be lowered below the point where less than 2 full wraps of rope remain on their respective drums.

R 408.41053f Traveling with load.

Rule 1053f. (1) Traveling with a load is prohibited if the practice is prohibited by the manufacturer.

(2) Where traveling with a load, the employer shall ensure all of the following:

(a) A competent person supervises the operation, determines if it is necessary to reduce rated capacity, and makes determinations regarding load position, boom location, ground support, travel route, overhead obstructions, and speed of movement necessary to ensure safety.

(b) The determinations of the competent person required in subdivision (a) of this subrule are implemented.

(c) For equipment with tires, tire pressure specified by the manufacturer shall be maintained.

(3) Rotational speed of the equipment shall be such that the load does not swing out beyond the radius at which it can be controlled.

(4) A tag or restraint line shall be used if necessary to prevent rotation of the load that would be hazardous.

(5) The brakes shall be adjusted in accordance with manufacturer procedures to prevent unintended movement.

R 408.41053g Locomotive crane swing; counterweight and ballast requirements.

Rule 1053g. (1) A locomotive crane shall not be swung into a position where railway cars on an adjacent track could strike it, until it is determined that cars are not being moved on the adjacent track and that proper flag protection has been established.

(2) Both of the following apply to equipment other than tower cranes:

(a) Equipment shall not be operated without the counterweight or ballast in place as specified by the manufacturer.

(b) The maximum counterweight or ballast specified by the manufacturer for the equipment shall not be exceeded.

(3) Counterweight and ballast requirements for tower cranes are specified in R 408.41084a(8).

**AUTHORITY TO STOP OPERATIONS**

R 408.41054 Authority to stop operation.

Rule 1054. Whenever there is a concern about safety, the operator may stop and refuse to handle loads until a qualified person has determined that safety has been assured.

## SIGNAL REQUIREMENTS

R 408.41055 Signals; general requirements.

Rule 1055. (1) The employer shall ensure that a signal person is provided in each of the following situations:

(a) The point of operation, meaning the load travel or the area near or at load placement, is not in full view of the operator.

(b) When the equipment is traveling, the view in the direction of travel is obstructed.

(c) Due to site specific safety concerns, either the operator or the person handling the load determines that it is necessary.

(2) Types of signals. The signals between the operator and signal person shall be by hand, voice, audible, or new signals.

(3) Hand signals. The following apply to hand signals:

(a) When using hand signals, the signal person, operator, and lift director shall use the standard method. See Appendix A “Standard Hand Signals for Controlling Crane Operations” of this standard.

Exception: When use of the standard method for hand signals is infeasible, or when an operation or use of an attachment is not covered in the standard method, nonstandard hand signals may be used in accordance with subdivision (b) of this subrule.

(b) Non-standard hand signals. When using non-standard hand signals, the signal person, operator, and lift director, when there is one, shall contact each other prior to the operation and agree on the non-standard hand signals that will be used.

(4) New signals. Signals between the operator and signal person other than hand, voice, or audible signals may be used when the employer demonstrates either of the following:

(a) The new signals provide at least equally effective communication as voice audible or standard method hand signals.

(b) The new signals comply with a national consensus standard that provides at least equally effective communication as voice audible or standard method hand signals.

(5) Suitability. The signals between the operator and signal person used, such as hand, voice, or audible, and means of transmitting the signals to the operator, such as direct line of sight, video, and radio, must be appropriate for the site conditions.

(6) During operations requiring signals, the ability to transmit signals between the operator and signal person shall be maintained. If that ability is interrupted at any time, the operator shall safely stop operations requiring signals until it is reestablished and a proper signal is given and understood.

(7) If the operator becomes aware of a safety problem and needs to communicate with the signal person, he or she shall safely stop operations. Operations shall not resume until the operator and signal person agree that the problem has been resolved.

(8) Only 1 person shall give signals to a crane or derrick at a time, except in circumstances covered by subrule (10) of this rule.

(9) A person who becomes aware of a safety problem shall alert the operator or signal person by giving the stop or emergency stop signal.

(10) All directions given to the operator by the signal person shall be given from the operator's direction perspective.

(11) Communication with multiple cranes or derricks. When the signal person or persons communicates with more than 1 crane or derrick, a system shall be used to identify the crane or derrick each signal is for, by either 1 of the following:

(a) The signal person shall identify for each signal the crane or derrick that the signal is for prior to giving the function, direction, or both.

(b) Use an equally effective method of identifying which crane or derrick the signal is for.

R 408.41055a Signal transmission devices.

Rule 1055a. (1) The devices used to transmit signals shall be tested between the operator and the signal person on-site before beginning operations to ensure that the signal transmission is clear and reliable.

(2) Signal transmission shall be through a dedicated channel except under the following circumstances:

(a) When multiple cranes or derricks are used for the same task, 1 or more qualified signal persons may share a dedicated channel for coordinating operations.

(b) When a crane is being operated on or adjacent to railroad tracks and the actions of the crane operator need to be coordinated with the movement of other equipment or trains on the same or adjacent tracks.

(3) The crane or derrick operator shall receive signals using a hands-free device.

R 408.41055b Voice signals; additional requirements.

Rule 1055b. (1) The operator, signal person, and lift director, if there is one, shall contact each other and agree on the voice signals that will be used prior to beginning operations. These individuals shall meet again if any of the following occurs:

(a) A worker is substituted or added.

(b) There is confusion about the voice signals.

(c) Voice signals are to be changed.

(2) Each voice signal shall contain the following elements, given in the following order:

(a) Function, such as hoist or boom, direction.

(b) Distance or speed, or both.

(c) Function, stop command.

(3) The operator, signal person, and lift director, if there is one, involved must be able to effectively communicate in the language used.

R 408.41055c Hand signal chart posting.

Rule 1055c. Hand signal charts shall be posted either on the crane or derrick or be readily available on site.

## FALL PROTECTION

R 408.41056 Fall protection scope.

Rule 1056. (1) The following rules shall apply to all equipment covered by this standard except tower cranes:

(a) R 408.41056a "Boom walkways."

(b) R 408.41056b (3) "Steps, handholds, ladders, grabrails, guardrails and railings, generally."

(c) R 408.41056d "Non-assembly or disassembly work."

(d) R 408.41056e “Assembly or disassembly work.”

(2) The following rules apply to all equipment covered by this standard:

(a) R 408.41056b (1) and (2) “Steps, handholds, ladders, grabrails, guardrails and railings, generally.”

(b) R 408.41056c “Personal fall arrest and fall restraint systems.”

(c) R 408.41056f “Anchorage criteria.”

(d) R 408.41056h “Anchoring to the load line.”

(e) R 408.41056i “Training.”

(3) The following rules shall apply only to tower cranes:

(a) R 408.41056b (4) “Steps, handholds, ladders, grabrails, guardrails and railings, generally.”

(b) R 408.41056g “Tower cranes.”

#### R 408.41056a Boom walkways.

Rule 1056a. (1) Equipment manufactured after November 8, 2011 with lattice booms shall be equipped with walkways on the boom or booms if the vertical profile of the boom, from cord centerline to cord centerline, is 6 feet or more.

(2) The boom walkway shall be at least 12 inches wide.

(3) Guardrails, railings, and other permanent fall protection attachments along walkways are as follows:

(a) Not required.

(b) Prohibited on booms supported by pendant ropes or bars if guardrails, railings, or attachments could be snagged by the ropes or bars.

(c) Prohibited if they are of the removable type or designed to be installed and removed each time the boom is assembled or disassembled.

(d) Where not prohibited, guardrails or railings may be of any height up to, but not more than, 45 inches.

#### R 408.41056b Steps, handholds, ladders, grabrails, guardrails, and railings, generally.

Rule 1056b. (1) Construction Safety Standard Part 45 “Fall Protection,” 1926.502(b), as referenced in R 408.41003e, does not apply to equipment covered by this standard.

(2) The employer shall maintain in good condition originally-equipped steps, handholds, ladders and guardrails, railings, or grabrails.

(3) Equipment manufactured after November 8, 2011 shall be equipped so as to provide safe access and egress between the ground and the operator work station, including the forward and rear positions, by the provision of devices such as steps, handholds, ladders, and guardrails, railings, or grabrails. These devices shall meet both of the following criteria:

(a) Steps, handholds, ladders and guardrails, railings, or grabrails shall meet the criteria of either of the following, except where infeasible:

(i) The Society of Automotive Engineers (SAE) J185 “Access Systems for Off-Road Machines,” May 2003 edition.

(ii) The International Organization for Standardization (ISO) 11660–2 “Cranes – Access, Guards and Restraints – Part 2: Mobile Cranes,” 1994 edition. The standards in this rule are adopted in R 408.41003a.

(b) Walking or stepping surfaces, except for crawler treads, shall have slip-resistant features or properties, such as diamond plate metal, strategically placed grip tape, expanded metal, or slip-resistant paint.

(4) Tower cranes manufactured after November 8, 2011 shall be equipped so as to provide safe access and egress between the ground and the cab, machinery platforms, and tower or mast, by

the provision of devices such as steps, handholds, ladders, and guardrails, railings, or grabrails. These devices shall meet both of the following criteria:

(a) Steps, handholds, ladders, and guardrails, railings, or grabrails shall meet the criteria of any of the following, except where infeasible:

(i) ISO 11660–1 “Cranes – Access, Guards and Restraints – Part 1: General,” 2008 edition.

(ii) ISO 11660–3 “Cranes – Access, Guards and Restraints – Part 3: Tower Cranes,” 2008 edition.

(iii) SAE J185 “Access Systems for Off-Road Machines,” May 2003 edition.

Note: The standards in this rule are adopted in R 408.41003a.

(b) Walking or stepping surfaces shall have slip-resistant features or properties, such as diamond plate metal, strategically placed grip tape, expanded metal, or slip-resistant paint.

R 408.41056c Personal fall arrest and fall restraint systems.

Rule 1056c. Personal fall arrest system components shall be used in personal fall arrest and fall restraint systems and shall conform to the criteria in Construction Safety Standard Part 45 “Fall Protection,” 1926.502(d), as referenced in R 408.41003e, except that 1926.502(d)(15) does not apply to components used in personal fall arrest and fall restraint systems. Either body belts or body harnesses shall be used in personal fall arrest and fall restraint systems.

R 408.41056d Non-assembly or disassembly work.

Rule 1056d. For non-assembly or disassembly work, the employer shall provide and ensure the use of fall protection equipment for employees who are on a walking or working surface with an unprotected side or edge more than 6 feet above a lower level. The following apply:

(a) When moving point-to-point, equipment shall be provided for the following:

(i) On non-lattice booms, whether horizontal or not horizontal.

(ii) On lattice booms that are not horizontal.

(iii) On horizontal lattice booms where the fall distance is 15 feet or more.

(b) While at a work station on any part of the equipment, including any type of boom, except when the employee is at or near draw-works when the equipment is running, in the cab, or on the deck.

R 408.41056e Assembly or disassembly work.

Rule 1056e. For assembly or disassembly work, the employer shall provide and ensure the use of fall protection equipment for employees who are on a walking or working surface with an unprotected side or edge more than 15 feet above a lower level, except when the employee is at or near draw-works when the equipment is running, in the cab, or on the deck.

R 408.41056f Anchorage criteria.

Rule 1056f. (1) Construction Safety Standard Part 45 “Fall Protection,” 1926.502(d)(15) and 1926.502(e)(2), as referenced in R 408.41003e, applies to equipment covered by this standard only to the extent delineated in subrule (2) of this rule.

(2) The following apply to anchorages for personal fall arrest and positioning device systems:

(a) Personal fall arrest systems shall be anchored to any apparently substantial part of the equipment unless a competent person, from a visual inspection, without an engineering analysis, would conclude that the criteria in Construction Safety Standard Part 45 “Fall Protection,” 1926.502(d)(15), as referenced in R 408.41003e, would not be met.

(b) Positioning device systems shall be anchored to any apparently substantial part of the equipment unless a competent person, from a visual inspection, without an engineering analysis,

would conclude that the criteria in Construction Safety Standard Part 45 “Fall Protection,” 1926.502(e)(2), as referenced in R 408.41003e, would not be met.

(c) Attachable anchor devices, portable anchor devices that are attached to the equipment, shall meet the anchorage criteria in Construction Safety Standard Part 45 “Fall Protection,” 1926.502(d)(15) for personal fall arrest systems and 1926.502(e)(2) for positioning device systems, as referenced in R 408.41003e.

(3) Anchorages for fall restraint systems. Fall restraint systems shall be anchored to any part of the equipment that is capable of withstanding twice the maximum load that an employee may impose on it during reasonably anticipated conditions of use.

#### R 408.41056g Tower cranes.

Rule 1056g. (1) For work other than erecting, climbing, and dismantling, the employer shall provide and ensure the use of fall protection equipment for employees who are on a walking or working surface with an unprotected side or edge more than 6 feet above a lower level, except when the employee is at or near draw-works when the equipment is running, in the cab, or on the deck.

(2) For erecting, climbing, and dismantling work, the employer shall provide and ensure the use of fall protection equipment for employees who are on a walking or working surface with an unprotected side or edge more than 15 feet above a lower level.

#### R 408.41056h Anchoring to load line.

Rule 1056h. A personal fall arrest system may be anchored to the crane or derrick’s hook, or other part of the load line, where all of the following requirements are met:

(a) A qualified person has determined that the set-up and rated capacity of the crane or derrick, including the hook, load line, and rigging, meets or exceeds the requirements in Construction Safety Standard Part 45 “Fall Protection,” 1926.502(d)(15), as referenced in R 408.41003e.

(b) The equipment operator is at the work site and is informed that the equipment is being used for this purpose.

(c) A load is not suspended from the load line when the personal fall arrest system is anchored to the crane or derrick’s hook or other part of the load line.

#### R 408.41056i Training.

Rule 1056i. The employer shall train each employee who may be exposed to fall hazards while on, or hoisted by, equipment covered by this standard on both of the following:

(a) The requirements in this part that address fall protection.

(b) The applicable requirements in Construction Safety Standard Part 45 “Fall Protection,” 1926.500 and 1926.502, as referenced in R 408.41003e.

### WORK AREA CONTROL

#### R 408.41057 Swing radius hazards.

Rule 1057. (1) The requirements in subrule (2) of this rule apply when there are accessible areas in which the equipment’s rotating superstructure, whether permanently or temporarily mounted, poses a reasonably foreseeable risk of either of the following:

(a) Striking and injuring an employee.

(b) Pinching or crushing an employee against another part of the equipment or another object.

(2) To prevent employees from entering hazard areas described in subrule (1) of this rule, the employer shall do all of the following:

(a) Train each employee assigned to work on or near the equipment in how to recognize struck-by and pinch or crush hazard areas posed by the rotating superstructure.

(b) Erect and maintain control lines, warning lines, railings or similar barriers to mark the boundaries of the hazard areas. Exception: When the employer can demonstrate that it is neither feasible to erect such barriers on the ground nor on the equipment, the hazard areas must be clearly marked by warning signs, as prescribed in Construction Safety Standard Part 22 “Signals, Signs, Tags, and Barricades,” as referenced in R 408.41003e, and high visibility markings on the equipment that identify the hazard areas. In addition, the employer shall train each employee to understand what these markings signify.

(3) Both of the following apply to protecting employees in the hazard area:

(a) Before an employee goes to a location in the hazard area that is out of view of the operator, the employee, or someone instructed by the employee, shall ensure that the operator is informed that he or she is going to that location.

(b) When the operator knows that an employee went to a location covered by subrule (1)(a) of this rule, the operator shall not rotate the superstructure until the operator is informed in accordance with a prearranged system of communication that the employee is in a safe position.

(4) When any part of a crane or derrick is within the working radius of another crane or derrick, the controlling entity shall institute a system to coordinate operations. If there is no controlling entity, the employer, if there is only 1 employer operating the multiple pieces of equipment, or employers, shall institute this system.

## KEEPING CLEAR OF THE LOAD

R 408.41058 Keeping clear of load.

Rule 1058. (1) Where available, hoisting routes that minimize the exposure of employees to hoisted loads shall be used to the extent consistent with public safety.

(2) An employee shall not be within the fall zone of a suspended load that is not being moved, except for employees engaged in any of the following:

(a) Hooking, unhooking, or guiding a load.

(b) Initially attaching the load to a component or structure.

(c) Operating a concrete hopper or concrete bucket.

(3) When employees are engaged in hooking, unhooking, or guiding the load, or are in the initial connection of a load to a component or structure and are within the fall zone, all of the following criteria shall be met:

(a) The materials being hoisted must be rigged to prevent unintentional displacement.

(b) Hooks with self-closing latches, or their equivalent, must be used.

Exception: “J” hooks are permitted to be used for setting wooden trusses.

(c) The materials must be rigged by a qualified rigger.

(4) Only employees needed to receive a load are permitted to be within the fall zone when a load is being landed.

(5) During a tilt-up or tilt-down operation both of the following shall be met:

(a) An employee shall not be directly under the load.

(b) Only employees essential to the operation are permitted in the fall zone, but not directly under the load. An employee is essential to the operation if the employee is conducting 1 of the following operations and the employer can demonstrate it is infeasible for the employee to perform that operation from outside the fall zone:

(i) Physically guiding the load.

(ii) Closely monitoring and giving instructions regarding the load’s movement.

(iii) Either detaching the load from or initially attaching the load to another component or structure including, but not limited to, making an initial connection or installing bracing.

Note: Boom free fall shall be prohibited when an employee is in the fall zone of the boom or load, and load line free fall shall be prohibited when an employee is directly under the load. See R 408.41060.

## FREE FALL AND CONTROLLED LOAD LOWERING

R 408.41060 Boom free fall prohibitions.

Rule 1060. (1) The use of equipment in which the boom is designed to free fall, live boom, shall be prohibited in each of the following circumstances:

- (a) An employee is in the fall zone of the boom or load.
- (b) An employee is being hoisted.
- (c) The load or boom is directly over a power line or over any part of the area extending the Table A “Minimum Clearance Distances,” clearance distance to each side of the power line; or any part of the area extending the Table A clearance distance to each side of the power line is within the radius of vertical travel of the boom or the load.
- (d) The load is over a shaft, except where there are no employees in the shaft.
- (e) The load is over a cofferdam, except where there are no employees in the fall zone of the boom or the load.

(f) Lifting operations are taking place in a refinery or tank farm.

(2) The use of equipment in which the boom is designed to free fall, live boom, is permitted only when none of the circumstances listed in subrule (1)(a) of this rule are present and either of the following applies:

- (a) The equipment was manufactured prior to October 31, 1984.
- (b) The equipment is a floating crane or derrick or a land crane or derrick on a vessel or flotation device.

R 408.41060a Preventing boom free fall.

Rule 1060a. Preventing boom free fall. When the use of equipment with a boom that is designed to free fall, live boom, is prohibited, the boom hoist shall have a secondary mechanism or device designed to prevent the boom from falling if the primary system used to hold or regulate the boom hoist fails, as follows:

- (a) Friction drums shall have both of the following:
  - (i) A friction clutch and, in addition, a braking device, to allow for controlled boom lowering.
  - (ii) A secondary braking or locking device, which is manually or automatically engaged, to back-up the primary brake while the boom is held, such as a secondary friction brake or a ratchet and pawl device.
- (b) Hydraulic drums shall have an integrally mounted holding device or internal static brake to prevent boom hoist movement in the event of hydraulic failure.
- (c) Neither clutches nor hydraulic motors shall be considered brake or locking devices for purposes of this standard.
- (d) Hydraulic boom cylinders shall have an integrally mounted holding device.

R 408.41060b Preventing uncontrolled retraction.

Rule 1060b. Hydraulic telescoping booms shall have an integrally mounted holding device to prevent the boom from retracting in the event of hydraulic failure.

R 408.41060c Controlled load lowering.

Rule 1060c. In each of the following circumstances, controlled load lowering shall be required and free fall of the load line hoist shall be prohibited:

- (a) An employee is directly under the load.
- (b) An employee is being hoisted.
- (c) The load is directly over a power line, or over any part of the area extending the Table A “Minimum Clearance Distances,” clearance distance to each side of the power line, or any part of the area extending the Table A clearance distance to each side of the power line is within the radius of vertical travel of the load.
- (d) The load is over a shaft.
- (e) The load is over a cofferdam, except when there are no employees in the fall zone of the load.

## OPERATOR QUALIFICATION AND CERTIFICATION

R 408.41061 Operator qualification and certification.

Rule 1061. (1) The employer shall ensure that, prior to operating any equipment covered under these rules, the person is operating the equipment during a training period in accordance with R 408.41061d or the operator is qualified or certified to operate the equipment in accordance with these rules.

(2) Exceptions. Operator qualification or certification under this rule shall not be required for operators of any of the following:

- (a) Derricks. See R 408.41085 to R 408.41085h.
- (b) Sideboom cranes. See R 408.41089.
- (c) Equipment with a maximum manufacturer-rated hoisting or lifting capacity of 2,000 pounds or less. See R 408.41090 to R 408.41090e.

(3) When operator qualification or certification is required by these rules, the employer shall provide the qualification or certification at no cost to operators who are employed by the employer at the time these rules become effective.

R 408.41061a Option (1): Certification by accredited crane operator testing organization.

Rule 1061a. (1) For a testing organization to be considered accredited to certify operators under this standard, the testing organization must comply with the following:

- (a) Be accredited by a nationally recognized accrediting agency based on that agency’s determination that industry recognized criteria have been met for all of the following:
  - (i) Written testing materials.
  - (ii) Practical examinations.
  - (iii) Test administration.
  - (iv) Grading.
  - (v) Facilities and equipment.
  - (vi) Personnel.
- (b) Administer written and practical tests that comply with both of the following:
  - (i) Assess the operator applicant regarding, at a minimum, the knowledge and skills listed in R 408.41061f.
  - (ii) Provide different levels of certification based on equipment capacity and type.
- (c) Have procedures for an operator to reapply and be retested if an operator applicant fails a test or is decertified.

(d) Have testing procedures for recertification designed to ensure that the operator continues to meet the technical knowledge and skills requirements in R 408.41061f.

(e) Have the testing organization's accreditation reviewed by the nationally recognized accrediting agency at least every 3 years.

(2) An operator is deemed qualified to operate a particular piece of equipment if the operator is certified by these rules for that type and capacity of equipment or for higher-capacity equipment of that type. If no accredited testing agency offers certification examinations for a particular type, capacity of equipment, or both, an operator is deemed qualified to operate that equipment if the operator has been certified for the type and capacity that is most similar to that equipment and for which a certification examination is available. The operator's certificate shall state the type and capacity of equipment for which the operator is certified.

(3) A certification issued under option (1) is portable.

(4) A certification issued under this subrule is valid for 5 years.

(5) The requirements in this rule are known as option (1).

R 408.41061b Option (2): Qualification by audited employer program.

Rule 1061b. (1) The employer's qualification of its employee shall comply with the written and practical tests and shall comply with either of the following:

(a) Have been developed by an accredited crane operator testing organization as provided under R 408.41061a.

(b) Have been approved by an auditor in accordance with all of the following requirements:

(i) The auditor is certified to evaluate tests by an accredited crane operator testing organization as provided under R 408.41061a.

(ii) The auditor is not an employee of the employer.

(iii) The approval is based on the auditor's determination that the written and practical tests meet nationally recognized test development criteria and are valid and reliable in assessing the operator applicants regarding, at a minimum, the knowledge and skills listed in R 408.41061f.

(iv) The audit is conducted in accordance with nationally recognized auditing standards.

(2) The employer's qualification of its employee shall meet all of the following requirements for the administration of tests:

(a) The written and practical tests are administered under circumstances approved by the auditor as meeting nationally recognized test administration standards.

(b) The auditor is certified to evaluate the administration of the written and practical tests by an accredited crane operator testing organization as provided under R 408.41061a.

(c) The auditor is not an employee of the employer.

(d) The audit is conducted in accordance with nationally recognized auditing standards.

(3) The employer program shall be audited within 3 months of the beginning of the program and at least every 3 years thereafter.

(4) The employer program shall have testing procedures for requalification designed to ensure that the operator continues to meet the technical knowledge and skills requirements in R 408.41061f. The requalification procedures shall be audited in accordance with subrules (2) and (3) of this rule.

(5) Deficiencies. If the auditor determines that there is a significant deficiency in the program, the employer shall ensure all of the following:

(a) No operator is qualified until the auditor confirms that the deficiency has been corrected.

(b) The program is audited again within 180 days of the confirmation that the deficiency was corrected.

(c) The auditor files a documented report of the deficiency to the Michigan occupational safety and health administration within 15 days of the auditor's determination that there is a deficiency.

(d) Records of the audits of the employer's program are maintained by the auditor for 3 years and are made available by the auditor to the director of the department of licensing and regulatory affairs or his or her designee upon request.

(6) A qualification under this rule shall be both of the following:

(a) Not portable. A qualification meets the requirements of R 408.41061 only where the operator is employed by and operates the equipment for the employer that issued the qualification.

(b) Valid for 5 years.

(7) The requirements in this rule are known as option (2).

R 408.41061c Option (3): Licensing by government entity.

Rule 1061c. (1) For purposes of these rules, a government licensing department or office that issues operator licenses for operating equipment covered by this standard is considered a government accredited crane operator testing organization if the criteria in this rule are met.

(2) The following apply to licensing criteria:

(a) The requirements for obtaining the license include an assessment by written and practical tests of the operator applicant regarding, at a minimum, the knowledge and skills listed in R 408.41061f.

(b) The testing meets industry recognized criteria for written testing materials, practical examinations, test administration, grading, facilities, equipment, and personnel.

(c) The government authority that oversees the licensing department or office has determined that the requirements in subdivisions (a) and (b) of this subrule, have been met.

(d) The licensing department or office has testing procedures for relicensing designed to ensure that the operator continues to meet the technical knowledge and skills requirements in R 408.41061f.

(3) The following apply to a license issued by a government accredited crane operator testing organization that meets the requirements of the option described in this rule:

(a) Meets the operator qualification requirements of this rule for operation of equipment only within the jurisdiction of the government entity.

(b) Is valid for the period of time stipulated by the licensing department or office, but not longer than 5 years.

(4) The requirements in this rule are known as option (3).

R 408.41061d Pre-qualification and certification training period.

Rule 1061d. (1) An employee who is not qualified or certified under these rules may operate equipment only as an operator-in-training and only where the requirements of this rule are met.

(2) The employer shall provide each operator-in-training with sufficient training prior to operating the equipment to enable the operator-in-training to operate the equipment safely under limitations established by this rule, including continuous monitoring, and any additional limitations established by the employer.

(3) The tasks performed by the operator-in-training while operating the equipment shall be within the operator-in-training's ability.

(4) Trainer. While operating the equipment, the operator-in-training shall be continuously monitored by an operator's trainer who shall meet all of the following requirements:

(a) Is an employee or agent of the operator-in-training's employer.

(b) Is either a certified operator under this rule, or has passed the written portion of a certification test under 1 of the options in R 408.41061a to R 408.41061c, and is familiar with the proper use of the equipment's controls.

(c) While monitoring the operator-in-training, the operator's trainer shall not perform tasks that detract from the trainer's ability to monitor the operator-in-training.

(d) For equipment other than tower cranes, the operator's trainer and the operator-in-training shall be in direct line of sight of each other and communicate verbally or by hand signals. For tower cranes, the operator's trainer and the operator-in-training shall be in direct communication with each other.

(5) Continuous monitoring. The operator-in-training shall be monitored by the operator's trainer at all times, except for short breaks where all of the following are met:

(a) A break lasts not longer than 15 minutes and there is not more than 1 break per hour.

(b) Immediately prior to a break the operator's trainer informs the operator-in-training of the specific tasks that the operator-in-training is to perform and limitations to which he or she shall adhere to during a break.

(c) The specific tasks that the operator-in-training performs during a break must be within the operator-in-training's abilities.

(6) The operator-in-training shall not operate the equipment in any of the following circumstances unless the exception in subdivision (e) of this subrule is applicable:

(a) If any part of the equipment, load line, or load including rigging and lifting accessories, if operated up to the equipment's maximum working radius in the work zone as prescribed in R 408.41036a(2) could get within 20 feet of a power line that is up to 350 kV, or within 50 feet of a power line that is over 350 kV.

(b) If the equipment is used to hoist personnel.

(c) In multiple-equipment lifts or when the load exceeds 75% of the rated load.

(d) If the equipment is used over a shaft, cofferdam, or in a tank farm.

(e) In multiple-equipment lift operations or when the load exceeds 75% of the rated load, except where the operator's trainer determines that the operator-in-training skills are sufficient for this high-skill work.

#### R 408.41061e Training and testing.

Rule 1061e. (1) A testing entity may provide training and testing as long as the applicable accredited agency criteria for an organization providing both services are met.

(2) The testing entity may administer tests verbally, with answers given verbally, when the operator candidate meets both of the following:

(a) Passes a written demonstration of literacy relevant to the work.

(b) Demonstrates the ability to use the type of written manufacturer procedures applicable to the class or type of equipment for which the candidate is seeking certification.

(3) The testing entity may administer tests in any language the operator candidate understands, and the operator's certificate shall note the language in which the test was given.

(4) The operator is qualified under R 408.41061a(2) to operate equipment that is furnished with materials required by these rules that are written in the language of the certification. The operator may only operate equipment furnished with these materials.

#### R 408.41061f Certification criteria.

Rule 1061f. (1) Qualifications and certifications shall be based, at a minimum, on the requirements in subrules (2) and (3) of this rule.

(2) A determination through a written test as prescribed in this subrule. All of the following apply:

(a) The individual knows the information necessary for safe operation of the specific type of equipment that he or she shall operate, including all of the following:

(i) The controls as well as the operational and performance characteristics.

(ii) Use of, and the ability to calculate, either manually or with a calculator, load and capacity information on a variety of configurations of the equipment.

(iii) Procedures for preventing and responding to power line contact.

(iv) Technical knowledge similar to the subject matter criteria listed in Appendix C of this standard applicable to the specific type of equipment the individual will operate. Use of the Appendix C criteria meets the requirements of this subrule.

(v) Technical knowledge applicable to the following:

(A) The suitability of the supporting ground and surface to handle expected loads.

(B) Site hazards.

(C) Site access.

(vi) These rules, including applicable incorporated materials.

(b) The individual is able to read and locate relevant information in the equipment manual and other materials containing information referred to in R 408.41061f(1)(a).

(3) A determination through a practical test that the individual has the skills necessary for safe operation of the equipment, including the following:

(a) Ability to recognize, from visual and auditory observation, the items listed in R 408.41037c.

(b) Operational and maneuvering skills.

(c) Application of load chart information.

(d) Application of safe shut-down and securing procedures.

R 408.41061g Phase-in period.

Rule 1061g. (1) The provisions of these rules are applicable beginning November 8, 2010 except for R 408.41061(3) and R 408.41061d, which are applicable beginning November 10, 2017.

(2) When R 408.41061 is not applicable, both of the following requirements apply until November 10, 2017:

(a) The employer shall ensure that operators of equipment covered by this standard are competent to operate the equipment safely.

(b) When an employee assigned to operate machinery does not have the required knowledge or ability to operate the equipment safely, the employer shall train that employee prior to operating the equipment. The employer shall ensure that each operator is evaluated to confirm that he or she understands the information provided in the training.

## SIGNAL PERSON QUALIFICATIONS

R 408.41062 Signal person qualifications.

Rule 1062. (1) The employer of the signal person shall ensure that each signal person meets the qualification requirements in subrule (3) of this rule prior to giving any signals. This requirement shall be met by using either Option (1) or Option (2) described as follows:

(a) Option (1)—Third-party qualified evaluator. The signal person has documentation from a third-party qualified evaluator as defined in R 408.41006d showing that the signal person meets the qualification requirements in subrule (3) of this rule.

(b) Option (2)—Employer’s qualified evaluator. The employer’s qualified evaluator, as defined in R 408.41006d, shall assess the individual and determine that he or she meets the qualification requirements in subrule (3) of this rule and provides documentation of that determination. An assessment by an employer’s qualified evaluator under this option is not portable. Other employers shall not be permitted to use the assessment to meet the requirements of this rule.

(c) The employer shall make the documentation for whichever option is used available at the site while the signal person is employed by the employer. The documentation shall specify each type of signaling, such as hand signals and radio signals, for which the signal person meets the requirements of subrule (3) of this rule.

(2) If subsequent actions by the signal person indicate that the individual does not meet the qualification requirements as provided in subrule (3) of this rule, the employer shall not allow the individual to continue working as a signal person until retraining is provided and a reassessment is made in accordance with subrule (1) of this rule that confirms that the individual meets the qualification requirements.

(3) Qualification requirements. The signal person must have all of the following qualifications:

(a) Know and understand the type of signals used. If hand signals are used, the signal person must know and understand the standard method for hand signals.

(b) Be competent in the application of the type of signals used.

(c) Have a basic understanding of equipment operation and limitations, including the crane dynamics involved in swinging and stopping loads and boom deflection from hoisting loads.

(d) Know and understand the relevant requirements of R 408.41055 to R 408.41055c and this rule.

(e) Demonstrate that he or she meets the requirements in subdivisions (a) to (d) of this subrule through an oral or written test and a practical test.

## QUALIFICATIONS OF MAINTENANCE AND REPAIR EMPLOYEES

R 408.41063 Qualifications of maintenance and repair employees.

Rule 1063. (1) The employer may permit maintenance, inspection, and repair personnel to operate the equipment only when all of the following requirements are met:

(a) The operation is limited to those functions necessary to perform maintenance, inspect the equipment, or verify its performance.

(b) The personnel does either of the following:

(i) Operate the equipment under the direct supervision of an operator who meets the requirements of R 408.41061 to R 408.41061g.

(ii) Be familiar with the operation, limitations, characteristics, and hazards associated with the type of equipment.

(2) Maintenance and repair personnel shall meet the definition of a qualified person with respect to the equipment and maintenance or repair tasks performed.

## TRAINING REQUIREMENTS

R 408.41064 Training requirements.

Rule 1064. (1) Overhead power lines. The employer shall train each employee specified in R 408.41036a(7) and R 408.41036c(25) in the topics listed in R 408.41036a(7).

(2) Signal persons. The employer shall train each employee who is assigned to work as a signal person who does not meet the requirements of R 408.41055(3) in the areas addressed in that subrule.

(3) Operators-in-training for equipment where certification or qualification is required by these rules. The employer shall train each operator-in-training in the areas addressed in R 408.41061f. The employer shall provide retraining if the operator-in-training does not pass a qualification or certification test.

(4) Transitional period. During the phase-in period for operator certification or qualification, as provided in R 408.41061g, an employer shall train each operator who has not been certified or qualified in the areas addressed in R 408.41061f.

(5) Operators exempt from the requirements of R 408.41061. The employer shall train each operator exempt under R 408.41061 from the requirements of R 408.41061a to R 408.41061g on the safe operation of the equipment the operator will be using.

(6) The employer shall train each operator of the equipment covered by this standard in the following practices:

(a) On friction equipment, when moving a boom off a support, first raise the boom a short distance sufficient to take the load of the boom to determine if the boom hoist brake needs to be adjusted. On other types of equipment with a boom, the same practice is applicable, except that typically there is no means of adjusting the brake. If the brake does not hold, a repair is necessary. An operator shall test the hoisting brakes before moving a near maximum rated load by raising the load a few inches and applying the hoisting brakes. The requirement in this rule applies to both single and multiple line reeving. See R 408.41053b and R 408.41053d for additional requirements.

(b) When available, the manufacturer's emergency procedures for halting unintended equipment movement.

(7) Competent persons and qualified persons. The employer shall train each competent person and each qualified person regarding the requirements of this standard applicable to their respective roles.

(8) Crush and pinch points. The employer shall train each employee who works with the equipment to keep clear of holes, and keep clear of crush and pinch points and the hazards addressed in R 408.41057.

(9) Tag-out. The employer shall train each operator and each additional employee authorized to start or energize equipment or operate equipment controls, such as maintenance and repair employees, in the tag-out and start-up procedures in R 408.41053b.

(10) The following apply to training administration:

(a) The employer shall evaluate each employee required to be trained under this rule to confirm that the employee understands the information provided in the training.

(b) The employer shall provide refresher training in relevant topics for each employee when, based on the conduct of the employee or an evaluation of the employee's knowledge, there is an indication that retraining is necessary.

(c) When training is required under this standard, the employer shall provide the training at no cost to the employee.

R 408.41065a Rescinded.

R 408.41066a Rescinded.

R 408.41067a Rescinded.

R 408.41068a Rescinded.

R 408.41069a Rescinded.

R 408.41070a Rescinded.

R 408.41070b Rescinded.

R 408.41071a Rescinded.

R 408.41072a Rescinded.

R 408.41073a Rescinded.

R 408.41074a Rescinded.

R 408.41075a Rescinded.

#### HOISTING PERSONNEL

R 408.41080 Hoisting personnel.

Rule 1080. (1) The requirements of these rules are in addition to the other requirements in this standard and apply when 1 or more employees are hoisted.

(2) The use of equipment to hoist employees is prohibited except where the employer demonstrates that the erection, use, and dismantling of conventional means of reaching the work area would be more hazardous, or is not possible, because of the project's structural design or worksite conditions. Examples of conventional means of reaching the work operations are any of the following:

- (a) Personnel hoist.
- (b) Ladder.
- (c) Stairway.
- (d) Aerial lift.
- (e) Elevating work platform.
- (f) Scaffold.

(3) Subrule (2) of this rule does not apply to work covered by Construction Safety Standard Part 28 "Personnel Hoisting in Steel Erection," as referenced in R 408.41003e.

R 408.41080a Use of personnel platform.

Rule 1080a. (1) When using equipment to hoist employees, the employer shall ensure that the employees in a personnel platform meet the requirements of R 408.41080c.

(2) Exceptions. A personnel platform is not required for hoisting employees under the following conditions:

(a) Into and out of drill shafts that are up to and including 8 feet in diameter. See R 408.41080l or requirements for hoisting these employees.

(b) In pile driving operations. See R 408.41080m for requirements for hoisting these employees.

(c) In storage-tank (steel or concrete), shaft, and chimney operations. See R 408.41080n for requirements for hoisting these employees.

(d) Solely for transfer to or from a marine worksite in a marine-hoisted personnel transfer device. See R 408.41080n for requirements for hoisting these employees.

R 408.41080b Equipment set-up.

Rule 1080b. (1) The equipment shall be uniformly level, within 1% of level grade, and located on footing that a qualified person has determined to be sufficiently firm and stable.

(2) Equipment with outriggers or stabilizers shall have all of the outriggers and stabilizers extended and locked. The amount of extension shall be the same for all outriggers and stabilizers, and be in accordance with manufacturer procedures and load charts.

R 408.41080c Equipment criteria.

Rule 1080c. (1) Capacity: Use of suspended personnel platforms. The total load with the platform loaded, including the hook, load line, and rigging, shall not exceed 50% of the rated capacity for the radius and configuration of the equipment, except during proof testing.

(2) Capacity: Use of boom-attached personnel platforms. The total weight of the loaded personnel platform shall not exceed 50% of the rated capacity for the radius and configuration of the equipment, except during proof testing.

(3) Capacity: Hoisting personnel without a personnel platform. When hoisting personnel without a personnel platform in accordance with R 408.41080a(2), the total load, including the hook, load line, rigging, and any other equipment that imposes a load, shall not exceed 50% of the rated capacity for the radius and configuration of the equipment, except during proof testing.

(4) Braking and locking features. Load and boom hoist drum brakes, swing brakes, and operator actuated secondary braking and locking features, such as pawls or dogs, or automatic secondary brakes shall be engaged when the occupied personnel platform is in a stationary working position.

(5) Devices shall be as follows:

(a) Equipment, except for derricks and articulating cranes, with a variable angle boom shall be equipped with both of the following:

(i) A boom angle indicator, readily visible to the operator.

(ii) A boom hoist limiting device.

(b) Articulating cranes shall be equipped with a properly functioning automatic overload protection device.

(c) Equipment with a luffing jib shall be equipped with both of the following:

(i) A jib angle indicator, readily visible to the operator.

(ii) A jib hoist limiting device.

(d) Equipment with telescoping booms must be equipped with a device to indicate the boom's extended length clearly to the operator, or must have measuring marks on the boom.

(e) Anti two-block. An employer shall ensure the use of a device that automatically prevents damage and load failure from contact between the load block, overhaul ball, or similar component, and the boom tip, fixed upper block, or similar component, is used. The device must prevent damage and/or failure at all points where two-blocking could occur.

Exception: This device is not required when hoisting personnel in pile driving operations. Instead, R 408.41080m(3) specifies how to prevent two-blocking during such operations.

(f) Controlled load lowering. The load line hoist drum shall have a system, other than the load line hoist brake, that regulates the lowering rate of speed of the hoist mechanism. This system or device must be used when hoisting personnel.

Note: Free fall of the load line hoist is prohibited under R 408.41080c. The use of equipment in which the boom hoist mechanism can free fall is also prohibited under R 408.41060(1).

(g) Proper operation required. Personnel hoisting operations shall not begin unless the devices listed in this rule are in proper working order. If a device stops working properly during such

operations, the operator must safely stop operations. Personnel hoisting operations shall not resume until the device is again working properly. Alternative measures are not permitted. See R 408.41053 to R 408.41053g for tag-out and related requirements.

(6) Direct attachment of a personnel platform to a luffing jib is prohibited.

#### R 408.41080d Personnel platform criteria.

Rule 1080d. (1) A qualified person familiar with structural design shall design the personnel platform and attachment and/or suspension system used for hoisting personnel.

(2) The system used to connect the personnel platform to the equipment shall allow the platform to remain within 10 degrees of level, regardless of boom angle.

(3) A qualified person shall ensure that the suspension system is designed to minimize tipping of the platform due to movement of employees occupying the platform.

(4) All welding of the personnel platform and its components must be performed by a certified welder familiar with the weld grades, types, and material specified in the platform design.

(5) A qualified person shall ensure that the personnel platform, excluding the guardrail system and personal fall arrest system anchorages, is capable of supporting, without failure, its own weight and at least 5 times the maximum intended load.

(6) The personnel platform shall be equipped with a guardrail system that meets the requirements of Construction Safety Standard Part 45 “Fall Protection,” as referenced in R 408.41003e, and shall be enclosed at least from the toeboard to mid-rail with either solid construction material or expanded metal that have openings not greater than 1/2 inch (1.27 cm). Points to which personal fall arrest systems are attached shall meet the anchorage requirements in Construction Safety Standard Part 45 “Fall Protection.”

(7) A grab rail shall be installed inside the entire perimeter of the personnel platform except for access gates/doors.

(8) Access gates or doors. If installed, access gates or doors of all types, including swinging, sliding, folding, or other types, shall not swing outward. If due to the size of the personnel platform, such as a 1-person platform, it is infeasible for the door to swing inward and allow safe entry for the platform occupant, the access gate or door may swing outward. Access gates and doors shall be equipped with a device that prevents accidental opening.

(9) Headroom must be sufficient to allow employees to stand upright in the platform.

(10) In addition to the use of hard hats, employees shall be protected by overhead protection on the personnel platform when employees are exposed to falling objects. The platform overhead protection shall not obscure the view of the operator or platform occupants, such as wire mesh that has openings up to 1/2 inch, unless full protection is necessary.

(11) All edges exposed to employee contact must be smooth enough to prevent injury.

(12) A qualified person shall ensure that the weight of the platform and its rated capacity is conspicuously posted on the platform with a plate or other permanent marking.

#### R 408.41080e Personnel platform loading.

Rule 1080e. (1) The personnel platform shall not be loaded in excess of its rated capacity.

(2) Both of the following apply to the use of a personnel platform:

(a) Personnel platforms shall be used only for employees, their tools, and the materials necessary to do their work. Platforms shall not be used to hoist materials or tools when not hoisting personnel.

(b) Exception. Materials and tools to be used during the lift, if secured and distributed in accordance with subrule (3) of this rule, may be in the platform for trial lifts.

(3) The employer shall ensure that materials and tools comply with both of the following:

- (a) Be secured to prevent displacement.
- (b) Be evenly distributed within the confines of the platform while the platform is suspended.
- (4) The number of employees occupying the personnel platform shall not exceed the maximum number the platform was designed to hold or the number required to perform the work, whichever is less.

R 408.41080f Attachment and rigging.

Rule 1080f. (1) The following apply to hooks and other detachable devices:

(a) Hooks used in the connection between the hoist line and the personnel platform, including hooks on overhaul ball assemblies, lower load blocks, bridle legs, or other attachment assemblies or components, shall be the following:

- (i) Of a type that can be closed and locked, eliminating the throat opening.
- (ii) Closed and locked when attached.

(b) Shackles used in place of hooks shall be of the alloy anchor type, and include either of the following:

- (i) A bolt, nut, and retaining pin, in place.
- (ii) Of the screw type, with the screw pin secured from accidental removal.

(c) Where other detachable devices are used, the detachable devices must be of the type that can be closed and locked to the same extent as the devices addressed in subrules (1) and (2) of this rule. The qualified rigger shall ensure that these devices are closed and locked when attached.

(2) Rope bridle. When a rope bridle is used to suspend the personnel platform, the employer shall connect each bridle leg to a master link or shackle in a manner that ensures that the load is evenly divided among the bridle legs.

(3) Rigging hardware, including wire rope, shackles, rings, master links, and other rigging hardware, and hooks shall be capable of supporting, without failure, at least 5 times the maximum intended load applied or transmitted to that component. Where rotation resistant rope is used, the slings must be capable of supporting without failure at least 10 times the maximum intended load.

(4) Eyes in wire rope slings must be fabricated with thimbles.

(5) The qualified rigger shall ensure that bridles and associated rigging for suspending the personnel platform are used only for the platform and the necessary employees, their tools, and materials necessary to do their work. The bridles and associated rigging must not have been used for any purpose other than hoisting personnel.

R 408.41080g Trial lift and inspection.

Rule 1080g. (1) A trial lift with the unoccupied personnel platform loaded at least to the anticipated lightweight shall be made from ground level, or any other location where employees may enter the platform, to each location at which the platform is to be hoisted and positioned. Where there is more than 1 location to be reached from a single set-up position, either individual trial lifts for each location, or a single trial lift, in which the platform is moved sequentially to each location, shall be performed. The method selected must be the same as the method that is to be used to hoist the personnel.

(2) The operator shall ensure that the trial lift is performed immediately prior to each shift in which personnel is hoisted. In addition, the trial lift shall be repeated prior to hoisting employees in each of the following circumstances:

(a) The equipment is moved and set up in a new location or returned to a previously used location.

(b) The lift route is changed, unless the competent person determines that the new route presents no new factors affecting safety.

(3) The competent person shall comply with all the following:

(a) Safety devices and operational aids required by this rule are activated and functioning properly. Other safety devices and operational aids shall meet the requirements of R 408.41040 and R 408.41052 to R 408.41052b.

(b) Nothing interferes with the equipment or the personnel platform in the course of the trial lift.

(c) Determine that the lift does not exceed 50% of the equipment's rated capacity at any time during the lift.

(d) Confirm that the load radius to be used during the lift has been accurately determined.

(4) Immediately after the trial lift, the competent person shall comply with all of the following:

(a) Conduct a visual inspection of the equipment, base support or ground, and personnel platform, to determine whether the trial lift has exposed any defect or problem or produced any adverse effect.

(b) Confirm that, upon the completion of the trial lift process, the test weight has been removed.

(5) Immediately prior to each lift, the operator shall ensure that all of the following shall take place:

(a) The platform is hoisted a few inches with the personnel and materials/tools on board and inspected by a competent person to ensure that it is secure and properly balanced.

(b) The following conditions shall be determined by a competent person to exist before the lift of personnel proceeds:

(i) Hoist ropes are free of deficiencies in accordance with R 408.41038.

(ii) Multiple part lines are not twisted around each other.

(iii) The primary attachment is centered over the platform.

(iv) The hoisting system is inspected if the load rope is slack to ensure that all ropes are properly seated on drums and in sheaves.

(6) Any condition found during the trial lift and subsequent inspection that fails to meet a requirement of this standard or otherwise creates a safety hazard shall be corrected before hoisting personnel. See R 408.41053 to R 408.41053g for tag-out and related requirements.

#### R 408.41080h Proof testing.

Rule 1080h. (1) At each jobsite, prior to hoisting employees on the personnel platform, and after any repair or modification, the competent person or operator shall ensure that the platform and rigging is proof tested to 125% of the platform's rated capacity. The proof test may be done concurrently with the trial lift.

(2) The platform must be lowered by controlled load lowering, braked, and held in a suspended position for a minimum of 5 minutes with the test load evenly distributed on the platform.

(3) After proof testing, a competent person shall inspect the platform and rigging to determine if the test has been passed. If any deficiencies are found that pose a safety hazard, the platform and rigging shall not be used to hoist personnel unless the deficiencies are corrected, the test is repeated, and a competent person determines that the test has been passed. See R 408.41053 to R 408.41053g for tag-out and related requirements.

(4) Personnel hoisting must not be conducted until the competent person determines that the platform and rigging have successfully passed the proof test.

#### R 408.41080i Work practices.

Rule 1080i. (1) Hoisting of the personnel platform shall be performed in a slow, controlled, cautious manner, with no sudden movements of the equipment or the platform.

(2) Platform occupants shall comply with all of the following:

(a) Keep all parts of their bodies inside the platform during raising, lowering, and horizontal movement. This subdivision does not apply to an occupant of the platform when necessary to position the platform or while performing the duties of a signal person.

(b) Not stand, sit on, or work from the top or intermediate rail or toeboard, or use any other means or device to raise their working height.

(c) Not pull the platform out of plumb in relation to the hoisting equipment.

(3) Before employees exit or enter a hoisted personnel platform that is not landed, the platform shall be secured to the structure where the work is to be performed, unless the employer can demonstrate that securing to the structure would create a greater hazard.

(4) If the platform is tied to the structure, the operator shall not move the platform until he or she receives confirmation that it is freely suspended.

(5) Tag lines shall be used when necessary to control the platform.

(6) Platforms without controls. When the platform is not equipped with controls, the equipment operator shall remain at the equipment controls, on site, and in view of the equipment at all times while the platform is occupied.

(7) Platforms with controls. When the platform is equipped with controls, all of the following shall be met at all times while the platform is occupied:

(a) The occupant using the controls in the platform shall be a qualified person with respect to their use, including the safe limitations of the equipment and hazards associated with its operation.

(b) The equipment operator shall be at a set of equipment controls that include boom and swing functions of the equipment, and the equipment operator shall be on site and in view of the equipment.

(c) The platform operating manual must be in the platform or on the equipment.

(8) All of the following apply to environmental conditions:

(a) Wind. When wind speed, sustained or gusts, exceeds 20 miles per hour at the personnel platform, a qualified person shall determine if, in light of the wind conditions, it is not safe to lift personnel. If it is not safe, the lifting operation shall not begin. If the lifting operation is already in progress, it shall be terminated.

(b) Other weather and environmental conditions. A qualified person shall determine if, in light of indications of dangerous weather conditions or other impending or existing danger, it is not safe to lift personnel. If it is not safe, the lifting operation shall not begin. If the lifting operation is already in progress, the lifting operation must be terminated.

(9) Employees being hoisted shall remain in direct communication with the signal person, where used, or the operator.

(10) All of the following apply to fall protection:

(a) Except when over water, employees occupying the personnel platform shall be provided and use a personal fall arrest system. The system shall be attached to a structural member within the personnel platform. When working over or near water, the requirements of Construction Safety Standard Part 6 “Personal Protective Equipment,” as referenced in R 408.41003e, apply.

(b) The fall arrest system, including the attachment point or anchorage used to comply with subdivision (a) of this subrule, shall meet the requirements in Construction Safety Standard Part 45 “Fall Protection,” as referenced in R 408.41003e.

(11) All of the following apply to other load lines:

(a) When a crane is being used to raise or lower persons on a work platform, another load shall not be attached to the work platform and another load shall not be raised or lowered at the same time by the same crane.

(b) Factory-produced boom-mounted personnel platforms that incorporate a winch as original equipment. Loads may be hoisted by this winch while employees occupy the personnel platform only where the load on the winch line does not exceed 500 pounds and does not exceed the rated capacity of the winch and platform.

(12) All of the following apply to traveling-equipment other than derricks:

(a) Hoisting of employees while the equipment is traveling is prohibited, except for either paragraph (i) or (ii) of this subdivision.

(i) Equipment that travels on fixed rails.

(ii) When the employer demonstrates that there is no less hazardous way to perform the work.

(iii) The exception in paragraph (ii) and (iii) of this subdivision does not apply to rubber-tired equipment.

(b) When employees are hoisted while the equipment is traveling, all of the following criteria shall be met:

(i) Equipment travel shall be restricted to a fixed track or runway.

(ii) Where a runway is used, the runway shall be a firm, level surface designed, prepared, and designated as a path of travel for the weight and configuration of the equipment being used to lift and travel with the personnel platform. An existing surface may be used as long as it meets the criteria in this paragraph.

(iii) Equipment travel shall be limited to boom length.

(iv) The boom shall be parallel to the direction of travel, except where it is safer to do otherwise.

(v) A competent person or operator shall perform a complete trial run to test the route of travel before employees are allowed to occupy the platform. This trial run can be performed at the same time as the trial lift required by R 408.41080g which tests the lift route.

(13) Traveling—derricks. Derricks shall be prohibited from traveling while personnel are hoisted.

#### R 408.41080j Pre-lift meeting.

Rule 1080j. (1) The employer shall hold a pre-lift meeting to review the appropriate requirements and procedures to be followed.

(2) All of the following entities shall attend the pre-lift meeting:

(a) The crane operator.

(b) The signalperson, if used for the lift.

(c) Employees to be lifted.

(d) The person who is responsible for the task to be performed.

(3) The pre-lift meeting shall be held prior to the trial lift at each new work location, and must be repeated for any employees newly assigned to the operation.

#### R 408.41080k Hoisting personnel near power lines.

Rule 1080k. Hoisting personnel within 20 feet of a power line that is up to 350 kV and hoisting personnel within 50 feet of a power line that is over 350 kV shall be prohibited, except for work covered by Construction Safety Standard Part 16 “Power Transmission and Distribution,” as referenced in R 408.41003e.

#### R 408.41080l Hoisting personnel in drill shafts.

Rule 1080l. When hoisting employees into and out of drill shafts that are up to and including 8 feet in diameter, all of the following requirements shall be met.

- (a) The employee shall be in either a personnel platform or on a boatswain’s chair.
- (b) If using a personnel platform, R 408.41080 to R 408.41080k shall apply.
- (c) If using a boatswain’s chair, all of the following requirements shall be met:
  - (i) The rules in Table 1080-1 apply to this rule.

Where the terms “personnel platform” or “platform” are used in this subrule, they shall be substituted with the term “boatswain’s chair.”

- (ii) A signal person shall be stationed at the shaft opening.
- (iii) The employee shall be hoisted in a slow, controlled descent and ascent.
- (iv) The employee shall use personal fall protection equipment, including a full body harness, attached independent of the crane or derrick.
- (v) The fall protection equipment shall meet the applicable requirements in Construction Safety Standard Part 45 “Fall Protection,” as referenced in R 408.41003e.
- (vi) The boatswain’s chair, excluding the personal fall arrest system anchorages, shall be capable of supporting, without failure, its own weight and at least 5 times the maximum intended load.
- (vii) Not more than 1 person shall be hoisted at a time.

TABLE 1080-1 HOISTING PERSONNEL IN DRILL SHAFTS		
RULE NUMBER	RULE TITLE	SPECIFIC RULE
R 408.41080	Hoisting personnel	
R 408.41080b	Equipment set-up	
R 408.41080c	Equipment criteria	(1), (3), (4)
R 408.41080d	Personnel platform criteria	(1), (2), (3)
R 408.41080e	Personnel platform loading	(1), (2)(a), (3)(a)
R 408.41080g	Trial list and inspection	
R 408.41080h	Proof testing	
R 408.41080i	Work practices	(1), (6), (8), (9), (11)(a)
R 408.41080l	Hoisting personnel in drill shafts	
R 408.41080m	Hoisting personnel for pile driving operations	
Where the terms “personnel platform” or “platform” are used in these rules, they shall be substituted with the term “boatswain’s chair.”		

R 408.41080m Hoisting personnel for pile driving operations.

Rule 1080m. When hoisting an employee in pile driving operations, all of the following requirements shall be met:

- (a) The employee must be in a personnel platform or boatswain’s chair.
- (b) For lattice boom cranes the cable shall be clearly marked so that it can easily be seen by the operator at a point that will give the operator sufficient time to stop the hoist to prevent two-blocking, or use a spotter who is in direct communication with the operator to inform the

operator when this point is reached. For telescopic boom cranes the cable shall be clearly marked so that it can be easily seen by the operator at a point that will give the operator sufficient time to stop the hoist to prevent two-blocking, and use a spotter who is in direct communication with the operator to inform the operator when this point is reached.

(c) If using a personnel platform, R 408.41080 to R 408.41080k apply.

(d) If using a boatswain’s chair, all of the following requirements shall be met:

(i) The rules in Table 1080-2 shall apply to this rule. Where the terms “personnel platform” or “platform” are used in this subrule, they shall be substituted with the term “boatswains chair.”

(ii) The employee shall be hoisted in a slow, controlled descent and ascent.

(iii) The employee shall use personal fall protection equipment, including a full body harness, independently attached to the lower load block or overhaul ball.

(iv) The fall protection equipment shall meet the applicable requirements in Construction Safety Standard Part 45 “Fall Protection,” as referenced in R 408.41003e.

(v) The boatswain’s chair, excluding the personal fall arrest system anchorages, shall be capable of supporting, without failure, its own weight and at least 5 times the maximum intended load.

(vi) Not more than 1 person shall be hoisted at a time.

TABLE 1080-2 HOISTING PERSONNEL FOR PILE DRIVING OPERATIONS and HOISTING PERSONNEL IN STORAGE-TANKS, SHAFT, AND CHIMNEY OPERATIONS		
RULE NUMBER	RULE TITLE	SPECIFIC RULE
R 408.41080	Hoisting personnel	
R 408.41080b	Equipment set-up	
R 408.41080c	Equipment criteria	(1), (3), (4)
R 408.41080d	Personnel platform criteria	(1), (2), (3)
R 408.41080e	Personnel platform loading	(1), (2)(a), (3)(a)
R 408.41080f	Attachment and rigging	
R 408.41080g	Trial lift and inspection	
R 408.41080h	Proof testing	
R 408.41080i	Work practices	(1), (6), (8), (9), (11)(a)
R 408.41080j	Pre-lift meeting	
R 408.41080k	Hoisting personnel near power lines	
Where the terms "personnel platform" or "platform" are used in these rules, they shall be substituted with the term "boatswain's chair."		

R 408.41080n Hoisting personnel in storage-tanks, shaft, and chimney operations.

Rule 1080n. When hoisting an employee in steel or concrete storage tanks, shaft, and chimney operations, the following requirements shall be met:

(a) The employee shall be in a personnel platform except when the employer can demonstrate that use of a personnel platform is infeasible. In this case, a boatswain’s chair shall be used.

- (b) If using a personnel platform, R 408.41080 to R 408.41080k apply.
- (c) If using a boatswain’s chair, all of the following requirements shall be met:
  - (i) The rules in Table 1035n “Hoisting Personnel For Pile Driving Operations and Hoisting Personnel In Storage-Tanks, Shaft, and Chimney Operations” shall apply to this rule. Where the terms “personnel platform” or “platform” are used in this subrule, they shall be substituted with the term “boatswain’s chair.”
  - (ii) The employee shall be hoisted in a slow, controlled descent and ascent.
  - (iii) The employee shall use personal fall protection equipment, including a full body harness, attached independent of the crane or derrick. When there is no adequate structure for attachment of personal fall arrest equipment as required in Construction Safety Standard Part 45 “Fall Protection,” 1926.502(d)(15), as referenced in R 408.41003e, the attachment shall be to the lower load block or overhaul ball.
  - (iv) The fall protection equipment shall meet the applicable requirements in Construction Safety Standard Part 45 “Fall Protection,” as referenced in R 408.41003e.
  - (v) The boatswain’s chair, excluding the personal fall arrest system anchorages, shall be capable of supporting, without failure, its own weight and at least 5 times the maximum intended load.
  - (vi) Not more than 1 person shall be hoisted at a time.

R 408.41080o Hoisting personnel for marine transfer.

Rule 1080o. The employer shall ensure that all of the following requirements are met when hoisting employees solely for transfer to or from a marine worksite:

- (a) The employee is in either a personnel platform or a marine-hoisted personnel transfer device.
- (b) If using a personnel platform, R 408.41080 to R 408.41080k apply.
- (c) If using a marine-hoisted personnel transfer device, all of the following requirements shall be met:
  - (i) The rules in Table 1080-3 shall apply to this rule. Where the terms “personnel platform” or “platform” are used in this subrule, they shall be substituted with the term “marine-hoisted personnel transfer device.”
  - (ii) The transfer device is used only for transferring workers.
  - (iii) The number of workers occupying the transfer device does not exceed the maximum number it was designed to hold.
  - (iv) Each employee wears a U.S. Coast Guard personal flotation device approved for industrial use.

TABLE 1080-3 HOISTING PERSONNEL FOR MARINE TRANSFER		
RULE NUMBER	RULE TITLE	SPECIFIC RULE
R 408.41080	Hoisting personnel	
R 408.41080b	Equipment set-up	(2)
R 408.41080c	Equipment criteria	(1), (3), (4),
R 408.41080d	Personnel platform criteria	(1) to (5), and (12),
R 408.41080e	Personnel platform loading	(1)
R 408.41080f	Attachment and rigging	

R 408.41080g	Trial lift and inspection	
R 408.41080h	Proof testing	
R 408.41080i	Work practices	(1), (8), (9), (10)(b), (11)(a), (12)
Where the terms “personnel platform” or “platform” are used in these rules, they shall be substituted with the term “marine-hoisted personnel transfer device		

CRITICAL LIFTS

R 408.41081 Critical lifts; supplemental requirements.

Rule 1081. (1) This rule applies to lifts exceeding 75% of the rated capacity of the crane or derrick as configured, or lifts that require the use of multiple cranes or derricks.

(2) Plan development. Before beginning a crane or derrick operation in which a lift exceeds 75% of the rated capacity of the crane or derrick, or requires the use of multiple cranes or derricks, the lift director shall plan the operation. The planning must meet all of the following requirements:

- (a) Be developed by a qualified person.
- (b) Be designed to ensure that the requirements of this standard are met.
- (c) When the qualified person determines that engineering expertise is needed for the planning, the employer shall ensure that it is provided.
- (d) Guidelines for critical lift planning are contained in Appendix E.

(3) Both of the following apply to plan implementation:

- (a) The lift shall be directed by a lift director who meets the criteria for both a competent person and a qualified person, or a competent person who is assisted by 1 or more qualified persons.
- (b) The lift director shall review the plan in a meeting with all workers who will be involved with the operation.

DESIGN, CONSTRUCTION, AND TESTING

R 408.41082 Design, construction, and testing prior to November 8, 2010.

Rule 1082. (1) This rule applies to equipment that has a manufacturer-rated hoisting or lifting capacity of more than 2,000 pounds.

(2) Mobile cranes, including crawler and truck, and locomotive cranes manufactured prior to November 8, 2010 shall meet at least 1 of the following applicable requirements for design, construction, and testing:

- (a) ANSI/ASME B30.5 “Mobile and Locomotive Cranes,” 1994 edition, as adopted in R 408.41003a,
- (b) PCSA Standard No. 4 “Mobile Power Crane and Excavator and Hydraulic Crane Standards,” 1983 edition, as adopted in R 408.41003c.
- (c) The requirements in R 408.41082a.
- (d) The applicable DIN standards that were in effect at the time of manufacture. DIN stands for "Deutsches Institut für Normung", meaning "German institute for standardization".

R 408.41082a Design, construction, and testing after November 8, 2010.

Rule 1082a. (1) Mobile cranes, including crawler and truck, and locomotive cranes manufactured on or after November 8, 2010 shall meet the following portions of ANSI/ASME

B30.5 “Mobile and Locomotive Cranes,” 2004 edition, as adopted in R 408.41003a, as applicable:

(a) In section 5–1.1.1 (“Load Ratings-Where Stability Governs Lifting Performance”), paragraphs (a)-(d) (including subparagraphs).

(b) In section 5–1.1.2 (“Load Ratings-Where Structural Competence Governs Lifting Performance”), paragraph (b).

(c) Section 5–1.2 (“Stability (Backward and Forward)”).

(d) In section 5–1.3.1 (“Boom Hoist Mechanism”), subdivisions (a), (b)(1) and (2) of this subrule, except that when using rotation resistant rope, R 408.41039a(7) applies.

(e) In section 5–1.3.2 (“Load Hoist Mechanism”), subdivision (a)(2) to (a)(4) (including subparagraphs), (b) (including subparagraphs), (c) (first sentence only) and (d).

(f) Section 5–1.3.3 (“Telescoping Boom”).

(g) Section 5–1.4 (“Swing Mechanism”).

(h) In section 5–1.5 (“Crane Travel”), all provisions except 5-1.5.3(d).

(i) In section 5–1.6 (“Controls”), all provisions except 5-1.6.1(c).

(j) Section 5–1.7.4 (“Sheaves”).

(k) Section 5–1.7.5 (“Sheave sizes”).

(l) In section 5–1.9.1 (“Booms”), paragraph (f).

(m) Section 5–1.9.3 (“Outriggers”).

(n) Section 5–1.9.4 (“Locomotive Crane Equipment”).

(o) Section 5–1.9.7 (“Clutch and Brake Protection”).

(p) In section 5–1.9.11 (“Miscellaneous equipment”), paragraphs (a), (c), (e), and (f).

R 408.41082b Prototype testing - Option A and B.

Rule 1082b. (1) Prototype testing: mobile cranes, including crawler and truck, and locomotive cranes manufactured on or after November 8, 2010 shall meet the prototype testing requirements in Test Option A or Test Option B described in this rule. Tower cranes manufactured on or after November 8, 2010 shall meet the prototype testing requirements in British European Standards BS EN 14439 “Cranes – Safety – Tower Cranes,” 2006 edition, as adopted in R 408.41003b.

Note 1 to R 408.41038c: Prototype testing of crawler, locomotive and truck cranes manufactured prior to November 8, 2010 shall conform to R 408.41038a.

Note 2 to R 408.41038c: The standards in this rule are adopted in R 408.41003a or R 408.41003b.

(2) Test Option A shall be as follows:

(a) The following apply to equipment with cantilevered booms, such as hydraulic boom cranes:

(i) All the tests listed in SAE J1063 “Cantilevered Boom Crane Structures – Method of Test,” November 1993 edition Table 1, shall be performed to load all critical structural elements to their respective limits.

(ii) All the strength margins listed in SAE J1063 “Cantilevered Boom Crane Structures – Method of Test,” November 1993 edition Table 2, shall be met.

(b) The following applies to equipment with pendant supported lattice booms:

(i) All the tests listed in SAE J987 “Lattice Boom Cranes – Method of Test,” June 2003 Table 1, shall be performed to load all critical structural elements to their respective limits.

(ii) All the strength margins listed in SAE J987 “Lattice Boom Cranes – Method of Test,” June 2003 Table 2 shall be met.

(3) Test Option B: The testing and verification requirements of BS EN 13000 “Cranes – Mobile Cranes,” 2004 edition, shall be met. In applying BS EN 13000 “Cranes – Mobile Cranes,” 2004 edition, all of the following additional requirements shall be met:

(a) The following applies to equipment with cantilevered booms, such as hydraulic boom cranes: The analysis methodology, computer modeling, shall demonstrate that all load cases listed in SAE J1063 “Cantilevered Boom Crane Structures – Method of Test,” November 1993 edition, meet the strength margins listed in SAE J1063 Table 2.

(b) The following applies to equipment with pendant supported lattice booms: The analysis methodology, computer modeling, shall demonstrate that all load cases listed in SAE J987 “Lattice Boom Cranes – Method of Test,” June 2003 edition, meet the strength margins listed in SAE J987 Table 2.

(c) Analysis verification. The physical testing requirements under SAE J1063 “Cantilevered Boom Crane Structures – Method of Test,” November 1993 edition, and SAE J987 “Lattice Boom Cranes – Method of Test,” June 2003 edition, shall be met unless the reliability of the analysis methodology, computer modeling, has been demonstrated by a documented history of verification through strain gauge measuring or strain gauge measuring in combination with other physical testing.

#### R 408.41082c Rated capacity and related information.

Rule 1082c. (1) All equipment covered by this standard shall meet all of the requirements of this rule.

(2) Rated capacity and related information. The information available in the cab, as specified in R 408.41053(4) regarding “rated capacity” and related information shall include, at a minimum, the following information:

(a) A complete range of the manufacturer’s equipment rated capacities, as follows:

(i) At all manufacturer approved operating radii, boom angles, work areas, boom lengths and configurations, jib lengths and angles or offset.

(ii) Alternate ratings for use and nonuse of option equipment that affects rated capacities, such as outriggers, stabilizers, and extra counterweights.

(b) A work area chart for which capacities are listed in the load chart.

Note: An example of this type of chart is in ANSI/ASME B30.5 “Mobile and Locomotive Cranes,” 2004 edition, section 5–1.1.3, Figure 11, as adopted in R 408.41003a,

(c) The work area figure and load chart shall clearly indicate the areas where no load is to be handled.

(d) Recommended reeving for the hoist lines shall be shown.

(e) Recommended parts of hoist reeving, size, and type of wire rope for various equipment loads.

(f) Recommended boom hoist reeving diagram, where applicable; size, type, and length of wire rope.

(g) Tire pressure, where applicable.

(h) Caution or warnings relative to limitations on equipment and operating procedures, including an indication of the least stable direction.

(i) Position of the gantry and requirements for intermediate boom suspension, where applicable.

(j) Instructions for boom erection and conditions under which the boom, or boom and jib combinations, may be raised or lowered.

(k) Whether the hoist holding mechanism is automatically or manually controlled, whether free fall is available, or any combination of these.

(l) The maximum telescopic travel length of each boom telescopic section.

(m) Whether sections are telescoped manually or with power.

(n) The sequence and procedure for extending and retracting the telescopic boom section.

(o) Maximum loads permitted during the boom extending operation, and any limiting conditions or cautions.

(p) Hydraulic relief valve settings specified by the manufacturer.

(3) Load hooks, including latched and unlatched types, ball assemblies, and load blocks shall be of sufficient weight to overhaul the line from the highest hook position for boom or boom and jib lengths and the number of parts of the line in use.

(4) Hook and ball assemblies and load blocks shall be marked with their rated capacity and weight.

(5) All of the following apply to latching hooks:

(a) Hooks shall be equipped with latches, except where the requirements of subdivision (b) of this subrule are met.

(b) Hooks without latches, or with latches removed or disabled, shall not be used unless both of the following occur:

(i) A qualified person has determined that it is safer to hoist and place the load without latches, or with the latches removed or tied-back.

(ii) Routes for the loads are preplanned to ensure that no employee is required to work in the fall zone except for employees necessary for the hooking or unhooking of the load.

(c) The latch closes the throat opening and is designed to retain slings or other lifting devices or accessories in the hook when the rigging apparatus is slack.

R 408.41082d Posted warnings; fire extinguisher.

Rule 1082d. (1) The employer shall ensure that posted warnings required by this standard, as well as those originally supplied with the equipment by the manufacturer, are maintained in legible condition.

(2) A portable fire extinguisher that has a rating of not less than 10BC shall be kept in the cab or operating enclosure, or where there is no cab or enclosure, be kept on the jobsite within a 200-foot radius of the equipment and be readily available. The employer shall ensure that the operator and maintenance employees are trained in the use of the fire extinguisher.

R 408.41082e Cab requirements.

Rule 1082e. Equipment with cabs shall meet all of the following requirements:

(a) Cabs shall be designed with a form of adjustable ventilation and method for clearing the windshield for maintaining visibility and air circulation. Examples of means for adjustable ventilation include air conditioner or window that can be opened for ventilation and air circulation. Examples of means for maintaining visibility include heater to prevent windshield icing, defroster, fan, or windshield wiper.

(b) Swinging or sliding cab doors shall be designed to prevent inadvertent opening or closing while traveling or operating the machine. Swinging doors adjacent to the operator shall open outward. Sliding operator doors shall open rearward.

(c) All of the following apply to windows:

(i) The cab shall have windows in front and on both sides of the operator. Forward vertical visibility shall be sufficient to give the operator a view of the boom point at all times.

(ii) Windows may have sections designed to be opened or readily removed. Windows with sections designed to be opened shall be designed so that they can be secured to prevent inadvertent closure.

(iii) Windows shall be made of safety glass or material with similar optical and safety properties that introduce no visible distortion or otherwise obscure visibility that interferes with the safe operation of the equipment.

(d) A clear passageway shall be provided from the operator's station to an exit door on the operator's side.

(e) Areas of the cab roof that serve as a workstation for rigging, maintenance, or other equipment-related tasks shall be capable of supporting 250 pounds without permanent distortion.

R 408.41082f Guarding; exhaust fumes; friction mechanisms; hydraulic load hoists.

Rule 1082f. (1) Belts, gears, shafts, pulleys, sprockets, spindles, drums, fly wheels, chains, and other parts or components that reciprocate, rotate, or otherwise move shall be guarded where contact by employees, except for maintenance and repair employees, is possible in the performance of normal duties.

(2) All exhaust pipes, turbochargers, and charge air coolers shall be insulated or guarded where contact by employees, except for maintenance and repair employees, is possible in the performance of normal duties.

(3) Hydraulic and pneumatic lines shall be protected from damage to the extent feasible.

(4) The equipment shall be designed so that exhaust fumes are not discharged in the cab and are discharged in a direction away from the operator.

(5) Friction mechanisms. When friction mechanisms, such as brakes and clutches, are used to control the boom hoist or load line hoist, they shall comply with both of the following:

(a) Be of a size and thermal capacity sufficient to control all rated loads with the minimum recommended reeving.

(b) Be adjustable to permit compensation for lining wear to maintain proper operation.

(6) Hydraulic load hoists. Hydraulic drums shall have an integrally mounted holding device or internal static brake to prevent load hoist movement in the event of hydraulic failure.

R 408.41082g Equipment not changed.

Rule 1082g. The employer's obligations under R 408.41082 to R 408.41082b and R 408.41082e and R 408.41082f are met when the equipment has not changed, except in accordance with R 408.41083 and when an employer can refer to documentation from the manufacturer showing that the equipment has been designed, constructed, and tested in accordance with those rules.

## EQUIPMENT MODIFICATIONS

R 408.41083 Equipment modifications.

Rule 1083. (1) Modifications or additions that affect the capacity or safe operation of the equipment shall be prohibited except when the requirements of subrule (2), (3), (4), (5), or (6) of this rule are met.

(2) All of the following apply to manufacturer review and approval:

(a) The manufacturer shall approve the modifications or additions in writing.

(b) The load charts, procedures, instruction manuals and instruction plates, tags, or decals shall be modified as necessary to reflect the modification or addition.

(c) The original safety factor of the equipment shall not be reduced.

(3) Manufacturer refusal to review request. The employer shall provide the manufacturer a detailed description of the proposed modification or addition, and shall be asked to approve the modification or addition. If a manufacturer declines to review the technical merits of the proposal or fails to acknowledge or initiate the review of the request within 30 days, all of the following shall be met:

(a) A registered professional engineer who is a qualified person with respect to the equipment involved shall do both of the following:

(i) Approve the modification or addition and specify the equipment configurations to which that approval applies.

(ii) Modify load charts, procedures, instruction manuals and instruction plates, tags, or decals as necessary to reflect the modification or addition.

(b) The original safety factor of the equipment shall not be reduced.

(4) Unavailable manufacturer. If the manufacturer is unavailable, the requirements of subrule (3)(a) and (b) of this rule are met.

(5) Manufacturer does not complete the review within 120 days of the request. The manufacturer shall be provided a detailed description of the proposed modification or addition and shall be asked to approve the modification or addition. If the manufacturer agreed to review the technical merits of the proposal, but failed to complete the review of the proposal within 120 days of the date it was provided the detailed description of the proposed modification or addition, then the requirements of subrule (3)(a) and (b) of this rule are met.

(6) Multiple manufacturers of equipment designed for use on marine work sites. If the equipment is designed for marine work sites or contains major structural component from more than 1 manufacturer, then the requirements of subrule (3)(a) and (b) of this rule are met.

(7) Modifications or additions that affect the capacity or safe operation of the equipment shall be prohibited when the manufacturer, after a review of the technical safety merits of the proposed modification or addition, rejects the proposal and explains the reasons for the rejection in a written response. If the manufacturer rejects the proposal, but does not explain the reasons for the rejection in writing, the employer may treat this as a manufacturer refusal to review the request under subrule (3) of this rule.

## TOWER CRANES

R 408.41084 Tower cranes.

Rule 1084. These rules contain supplemental requirements for tower cranes. All rules of this standard apply to tower cranes unless specified otherwise.

R 408.41084a Erecting, climbing, and dismantling.

Rule 1084a. (1) R 408.41035 applies to tower cranes except as otherwise specified.

The term “assembly/disassembly” is replaced by “erecting, climbing and dismantling,” and the term “disassembly” is replaced by “dismantling” when applying R 408.41035 to tower cranes.

(2) Dangerous areas, self-erecting tower cranes. In addition to the requirements in R 408.41035a for self-erecting tower cranes, employees shall not be in or under the tower, jib, or rotating portion of the crane during erecting, climbing, and dismantling operations until the crane is secured in a locked position and the competent person in charge indicates it is safe to enter this area, unless the manufacturer’s instructions direct otherwise. Then, only the necessary personnel are permitted in this area.

(3) Tower crane foundations and structural supports, including both the portions of the structure used for support and the means of attachment, shall be designed by the manufacturer or a registered professional engineer.

(4) Addressing specific hazards. The requirements in R 408.41035b (1) to (9) apply. In addition, the A/D director shall address all of the following:

(a) Foundations and structural supports. The A/D director shall determine that tower crane foundations and structural supports are installed in accordance with their design.

(b) Loss of backward stability. Backward stability before swinging self-erecting cranes or cranes on traveling or static undercarriages shall be maintained.

(c) Wind speed. Wind shall not exceed the speed recommended by the manufacturer. When the manufacturer does not specify this information, the speed shall be determined by a qualified person.

(5) Plumb tolerance. Towers shall be erected plumb to the manufacturer's tolerance and verified by a qualified person. When the manufacturer does not specify plumb tolerance, the crane tower shall be plumb to a tolerance of at least 1:500, approximately 1 inch in 40 feet.

(6) Multiple tower crane jobsites. On jobsites where more than 1 fixed jib (hammerhead) tower crane is installed, the cranes must be located so that no crane can come in contact with the structure of another crane. Cranes may be permitted to pass over one another.

(7) Climbing procedures. Prior to, and during, all climbing procedures, including inside climbing and top climbing, the employer shall do both of the following:

(a) Comply with all manufacturer prohibitions.

(b) Have a registered professional engineer verify that the host structure is strong enough to sustain the forces imposed through the braces, brace anchorages, and supporting floors.

(8) Counterweights or ballasts. Both of the following apply to counterweights or ballasts:

(a) Equipment shall not be erected, dismantled, or operated without the amount and position of counterweight, ballast, or both, in place as specified by the manufacturer or a registered professional engineer familiar with the equipment.

(b) The maximum counterweight, ballast, or both, specified by the manufacturer or registered professional engineer familiar with the equipment shall not be exceeded.

#### R 408.41084b Signs and safety devices.

Rule 1084b. (1) The size and location of signs on tower cranes shall be installed as specified by the manufacturer. When manufacturer specifications are unavailable, a registered professional engineer familiar with the type of equipment involved must approve, in writing, the size and location of any signs.

(2) R 408.41040 does not apply to tower cranes.

(3) All of the following safety devices are required on all tower cranes unless otherwise specified:

(a) Boom stops on luffing boom type tower cranes.

(b) Jib stops on luffing boom type tower cranes, if equipped with a jib attachment.

(c) Travel rail end stops at both ends of travel rail.

(d) Travel rail clamps on all travel bogies.

(e) Integrally mounted check valves on all load supporting hydraulic cylinders.

(f) A hydraulic system pressure limiting device.

(g) All of the following brakes, which automatically set in the event of pressure loss or power failure, shall be required:

(i) A hoist brake on all hoists.

(ii) Swing brake.

(iii) Trolley brake.

(iv) Rail travel brake.

(h) Deadman control or forced neutral return control hand levers.

(i) Emergency stop switch at the operator's station.

(j) Trolley end stops shall be provided at both ends of travel of the trolley.

(4) Proper operation required. Operations shall not begin unless the devices listed in this rule are in proper working order. If a device stops working properly during operations, the operator

shall safely stop operations. The equipment shall be taken out of service, and operations shall not resume until the device is again working properly. See R 408.41053b (1) and (2). Alternative measures shall not be used.

R 408.41084c Operational aids.

Rule 1084c. (1) R 408.41052 to R 408.41052b do not apply to tower cranes.

(2) The devices listed in R 408.41084d, R 408.41084e, and this rule are required on all tower cranes covered by this standard, unless otherwise specified.

(3) Operations shall not begin unless the operational aids are in proper working order, except when the employer meets the specified temporary alternative measures. More protective alternative measures specified by the tower crane manufacturer, if any, shall be followed. See R 408.41053d for additional requirements.

(4) If an operational aid stops working properly during operations, the operator shall safely stop operations until the temporary alternative measures are implemented or the device is again working properly. If a replacement part is no longer available, the use of a substitute device that performs the same type of function are permitted and shall not be considered a modification under R 408.41083.

R 408.41084d Category (1) operational aids criteria.

Rule 1084d. (1) Operational aids listed in this subrule that are not working properly must be repaired no later than 7 calendar days after the deficiency occurs. Exception: If the employer documents that it has ordered the necessary parts within 7 calendar days of the occurrence of the deficiency, the repair must be completed within 7 calendar days of receipt of the parts.

(2) Trolley travel limiting device. The travel of the trolley shall be restricted at both ends of the jib by a trolley travel limiting device to prevent the trolley from running into the trolley end stops. Temporary alternative measures must comply with either of the following:

(a) The trolley rope is marked so it can be seen by the operator at a point that will give the operator sufficient time to stop the trolley prior to the end stops.

(b) A spotter who is in direct communication with the operator is used when operations are conducted within 10 feet of the outer or inner trolley end stops.

(3) Boom hoist limiting device. The range of the boom shall be limited at the minimum and maximum radius. Temporary alternative measures must comply with either of the following:

(a) The cable is clearly marked so it can be seen by the operator at a point that will give the operator sufficient time to stop the boom hoist within the minimum and maximum boom radius.

(b) A spotter is in direct communication with the operator to inform the operator when this point is reached.

(4) Anti two-blocking device. The tower crane shall be equipped with a device that automatically prevents damage from contact between the load block, overhaul ball, or similar component, and the boom tip or fixed upper block or similar component. The device or devices shall prevent this damage at all points where two-blocking could occur. Temporary alternative measures shall comply with either of the following:

(a) The cable is clearly marked so it can be seen by the operator at a point that will give the operator sufficient time to stop the hoist to prevent two-blocking.

(b) A spotter is in direct communication with the operator to inform the operator when this point is reached.

(5) Hoist drum lower limiting device. Tower cranes manufactured after November 8, 2011, shall be equipped with a device that prevents the last 2 wraps of hoist cable from being spooled off the drum. Temporary alternative measures must comply with either of the following:

(a) The cable is clearly marked so it can be seen by the operator at a point that will give the operator sufficient time to stop the hoist prior to last 2 wraps of hoist cable being spooled off the drum.

(b) A spotter who is in direct communication with the operator to inform the operator when this point is reached.

(6) Load moment limiting device. The tower crane shall have a device that prevents moment overloading. Temporary alternative measures must comply with either of the following:

(a) A radius indicating device is used.

(b) If the tower crane is not equipped with a radius indicating device, the radius is measured to ensure the load is within the rated capacity of the crane. In addition, the weight of the load is determined from a source recognized by the industry, such as the load's manufacturer, or by a calculation method recognized by the industry, such as calculating a steel beam from measured dimensions and a known per foot weight, or by other equally reliable means. This information shall be provided to the operator prior to the lift.

(7) Hoist line pull limiting device. The capacity of the hoist shall be limited to prevent overloading, including each individual gear ratio if equipped with a multiple speed hoist transmission. Temporary alternative measure: The operator shall ensure that the weight of the load does not exceed the capacity of the hoist, including for each individual gear ratio if equipped with a multiple speed hoist transmission.

(8) Rail travel limiting device. The travel distance in each direction shall be limited to prevent the travel bogies from running into the end stops or buffers. Temporary alternative measure: A spotter who is in direct communication with the operator shall be used when operations are conducted within 10 feet of either end of the travel rail end stops. The spotter shall inform the operator of the distance of the travel bogies from the end stops or buffers.

(9) Boom hoist drum positive locking device and control. The boom hoist drum shall be equipped with a control that shall enable the operator to positively lock the boom hoist drum from the cab. Temporary alternative measure: The device shall be manually set when required if an electric, hydraulic, or automatic control is not functioning.

R 408.41084e Category (2) operational aids criteria.

Rule 1084e. (1) The following operational aids that are not working properly shall be repaired not later than 30 calendar days after the deficiency occurs. Exception: If the employer documents that it has ordered the necessary parts within 7 calendar days of the occurrence of the deficiency and the part is not received in time to complete the repair in 30 calendar days, the repair shall be completed within 7 calendar days of receipt of the parts.

(2) Boom angle or hook radius indicators. The following apply to boom angle or hook radius indicators:

(a) Luffing boom tower cranes shall have a boom angle indicator readable from the operator's station.

(b) Hammerhead tower cranes manufactured after November 8, 2011 shall have a hook radius indicator readable from the operator's station.

(c) Temporary alternative measure: Hook radii or boom angle shall be determined by measuring the hook radii or boom angle with a measuring device.

(3) Trolley travel deceleration device. The trolley speed shall be automatically reduced prior to the trolley reaching the end limit in both directions. Temporary alternative measure: The employer shall post a notice in the cab of the crane notifying the operator that the trolley travel deceleration device is malfunctioning and instructing the operator to take special care to reduce the trolley speed when approaching the trolley end limits.

(4) Boom hoist deceleration device. The boom speed shall be automatically reduced prior to the boom reaching the minimum or maximum radius limit. Temporary alternative measure: The employer shall post a notice in the cab of the crane notifying the operator that the boom hoist deceleration device is malfunctioning and instructing the operator to take special care to reduce the boom speed when approaching the minimum or maximum radius limits.

(5) Load hoist deceleration device. The load speed shall be automatically reduced prior to the hoist reaching the upper limit. Temporary alternative measure: The employer shall post a notice in the cab of the crane notifying the operator that the load hoist deceleration device is malfunctioning and instructing the operator to take special care to reduce the load speed when approaching the upper limits.

(6) Wind speed indicator. A device shall be provided to display the wind speed and shall be mounted above the upper rotating structure on tower cranes. On self-erecting cranes, the device shall be mounted at or above the jib level. Temporary alternative measures shall comply with either of the following:

(a) Use of wind speed information from a properly functioning indicating device on another tower crane on the same site.

(b) A qualified person estimates the wind speed.

(7) Load indicating device. Cranes manufactured after November 8, 2011 shall have a device that displays the magnitude of the load on the hook. Displays that are part of load moment limiting devices that display the load on the hook meet this requirement. Temporary alternative measure: The weight of the load shall be determined from a source recognized by the industry, such as the load's manufacturer, or by a calculation method recognized by the industry, such as calculating a steel beam from measured dimensions and a known per foot weight, or by other equally reliable means. This information shall be provided to the operator prior to the lift.

#### R 408.41084f Inspections.

Rule 1084f. (1) R 408.41037 to R 408.41037f shall apply to tower cranes, except that the term "assembly" is replaced by "erection." R 408.41038 applies to tower cranes.

(2) Pre-erection inspection. Before each crane component is erected, it shall be inspected by a qualified person for damage or excessive wear. All of the following apply:

(a) The qualified person shall pay particular attention to components that will be difficult to inspect thoroughly during shift inspections.

(b) If the qualified person determines that a component is damaged or worn to the extent that it would create a safety hazard if used on the crane, that component shall not be erected on the crane unless it is repaired and, upon reinspection by the qualified person, found to no longer create a safety hazard.

(c) If the qualified person determines that the component, though not presently a safety hazard, needs to be monitored, the employer shall ensure that the component is checked in the monthly inspections. Any such determination shall be documented, and the documentation shall be available to any individual who conducts a monthly inspection.

(3) Post-erection inspection. In addition to the requirements in R 408.41037b, the employer shall ensure that the following requirements are met:

(a) A load test using certified weights, or scaled weights using a certified scale with a current certificate of calibration, are conducted after each erection.

(b) The load test is conducted according to the manufacturer's instructions when available. When these instructions are unavailable, the test must be conducted according to written load test procedures developed by a registered professional engineer familiar with the type of equipment involved.

(4) Monthly. The following additional items shall be included in the monthly inspection:

(a) All tower, mast, and other structural bolts, in loose or dislodged condition, from the base of the tower crane up or, if the crane is tied to or braced by the structure, those above the upper-most brace support.

(b) The upper-most tie-in, braces, floor supports, and floor wedges where the tower crane is supported by the structure, for loose or dislodged components.

(5) Annual. In addition to the items that must be inspected under R 408.41037e, all turntable and tower bolts shall be inspected annually for proper condition and torque.

## DERRICKS

### R 408.41085 Derricks.

Rule 1085. These rules contain supplemental requirements for derricks, whether temporarily or permanently mounted. All provisions of this standard apply to derricks unless specified otherwise.

### R 408.41085a Operation procedures.

Rule 1085a. (1) R 408.41053 to R 408.41053g apply, except for R 408.41053(3).

(2) Load charts shall contain at least all the following information:

(a) Rated capacity at corresponding ranges of boom angle or operating radii.

(b) Specific lengths of components to which the rated capacities apply.

(c) Required parts for hoist reeving.

(d) Size and construction of rope, which also may be included in the operating manual.

(3) An employer shall ensure that the load chart location complies with both of the following:

(a) For permanently installed derricks with fixed lengths of boom, guy, and mast, a load chart is posted where it is visible to personnel responsible for the operation of the equipment.

(b) For derricks that are not permanently installed, the load chart is readily available at the job site to personnel responsible for the operation of the equipment.

### R 408.41085b Construction criteria.

Rule 1085b. (1) General requirements consist of both of the following:

(a) Derricks shall be constructed to meet all stresses imposed on members and components when installed and operated in accordance with the manufacturer's or builder's procedures and within its rated capacity.

(b) Welding of load sustaining members shall conform to recommended practices in either of the following:

(i) ANSI/AWS D14.3 "Specification for Welding Earthmoving and Construction Equipment," 1994 edition.

(ii) AWS D1.1/D1.1M "Structural Welding Code--Steel Updates Every 5 Years," 2002 edition.

These standards are adopted in R 408.41003a.

(2) All of the following apply to guy derricks:

(a) The minimum number of guys shall be 6, with equal spacing, except where a qualified person or derrick manufacturer approves variations from these requirements and revises the rated capacity to compensate for such variations.

(b) Guy derricks shall not be used unless the employer has the following guy information from the manufacturer or a qualified person when not available from the manufacturer:

(i) The number of guys.

(ii) The spacing around the mast.

- (iii) The size, grade, and construction of rope to be used for each guy.
- (c) For guy derricks manufactured after December 18, 1970, in addition to the information required in subdivision (b) of this subrule, the employer must have the following guy information from the manufacturer or a qualified person, when not available from the manufacturer:
  - (i) The amount of initial sag or tension.
  - (ii) The amount of tension in guy line rope at anchor.
- (d) The mast base shall permit the mast to rotate freely with allowance for slight tilting of the mast caused by guy slack.
- (e) The mast cap shall comply with all of the following:
  - (i) Permit the mast to rotate freely.
  - (ii) Withstand tilting and cramping caused by the guy loads.
  - (iii) Be secured to the mast to prevent disengagement during erection.
  - (iv) Be provided with means for attaching guy ropes.
- (3) All of the following apply to stiffleg derricks:
  - (a) The mast shall be supported in the vertical position by at least 2 stifflegs. One end of each stiffleg shall be connected to the top of the mast and the other end securely anchored.
  - (b) The stifflegs shall be capable of withstanding the loads imposed at any point of operation within the load chart range.
  - (c) The mast base shall comply with both of the following:
    - (i) Permit the mast to rotate freely, when necessary.
    - (ii) Permit deflection of the mast without binding.
  - (d) The mast shall be prevented from lifting out of its socket when the mast is in tension.
  - (e) The stiffleg connecting member at the top of the mast shall comply with all of the following:
    - (i) Permit the mast to rotate freely, when necessary.
    - (ii) Withstand the loads imposed by the action of the stifflegs.
    - (iii) Be secured so as to oppose separating forces.
- (4) All of the following apply to gin pole derricks:
  - (a) Guy lines shall be sized and spaced so as to make the gin pole stable in both boomed and vertical positions. Exception: When the size, spacing, or both, of guy lines do not result in the gin pole being stable in both boomed and vertical positions, the employer shall ensure that the derrick is not used in an unstable position.
  - (b) The base of the gin pole shall permit movement of the pole, when necessary.
  - (c) The gin pole shall be anchored at the base against horizontal forces, when such forces are present.
- (5) Chicago boom derricks. The fittings for stepping the boom and for attaching the topping lift shall be arranged to comply with all of the following:
  - (a) Permit the derrick to swing at all permitted operating radii and mounting heights between fittings.
  - (b) Accommodate attachment to the upright member of the host structure.
  - (c) Withstand the forces applied when configured and operated in accordance with the manufacturer's or builder's procedures and within its rated capacity.
  - (d) Prevent the boom or topping lift from lifting out under tensile forces.

R 408.41085c Anchoring and guying.

Rule 1085c. (1) Load anchoring data developed by the manufacturer or a qualified person shall be used in anchoring and guying operations.

- (2) All of the following apply to guy derricks:

- (a) The mast base shall be anchored.
- (b) The guys shall be secured to the ground or other firm anchorage.
- (c) The anchorage and guying shall be designed to withstand maximum horizontal and vertical forces encountered when operating within rated capacity with the particular guy slope and spacing specified for the application.
- (3) All of the following apply to stiffleg derricks:
  - (a) The mast base and stifflegs shall be anchored.
  - (b) The mast base and stifflegs shall be designed to withstand maximum horizontal and vertical forces encountered when operating within rated capacity with the particular stiffleg spacing and slope specified for the application.

R 408.41085d Boom, swinger mechanisms, and hoists.

Rule 1085d. (1) The boom, swinger mechanisms, and hoists shall be suitable for the derrick work intended and shall be anchored to prevent displacement from the imposed loads.

(2) Base mounted drum hoists shall meet the requirements in the following sections of ASME B30.7 “Base Mounted Drum Hoists,” 2001 edition, as adopted in R 408.41003a:

- (a) Section 7–1.1 (“Load ratings and markings”).
- (b) Section 7–1.2 (“Construction”), except: 7–1.2.13 (“Operator’s cab”); 7–1.2.15 (“Fire extinguishers”).
- (c) Section 7–1.3 (“Installation”).
- (d) Applicable terms in section 7–0.2 (“Definitions”).

(3) Load tests for new hoists. The employer shall ensure that new hoists are load tested to a minimum of 110% of rated capacity, but not more than 125% of rated capacity, unless otherwise recommended by the manufacturer. This requirement shall be met when the manufacturer has conducted this testing.

(4) Repaired or modified hoists. Hoists that have had repairs, modifications, or additions affecting their capacity or safe operation shall be evaluated by a qualified person to determine if a load test is necessary. If it is necessary, load testing shall be conducted in accordance with subrule (3) and (5) of this rule.

(5) Load test procedure. Load tests required by subrule (3) or (4) of this rule shall be conducted to comply with all of the following:

- (a) The test load shall be hoisted a vertical distance to assure that the load is supported by the hoist and held by the hoist brake or brakes.
- (b) The test load shall be lowered, stopped, and held with the brake or brakes.
- (c) The hoist shall not be used unless a competent person determines that the test has been passed.

R 408.41085e Operational aids.

Rule 1085e. (1) R 408.41052 to R 408.41052b apply to subrules (2) and (3) of this rule, except for R 408.41052a(2), and R 408.41052b (2) and (5).

(2) Boom angle aid. A boom angle indicator shall not be required. If the derrick is not equipped with a functioning boom angle indicator, the employer shall ensure that 1 of the following is met:

(a) The boom hoist cable shall be marked with caution and stop marks. The stop marks shall correspond to maximum and minimum allowable boom angles. The caution and stop marks shall be in view of the operator or a spotter who is in direct communication with the operator.

(b) An electronic or other device that signals the operator in time to prevent the boom from moving past its maximum and minimum angles, or automatically prevents such movement, shall be used.

(3) Load weight and capacity devices. All of the following apply to load weight or capacity devices:

(a) Derricks manufactured more than 1 year after November 8, 2010 with a maximum rated capacity over 6,000 pounds shall have at least 1 of the following: a load weighing device, a load moment or rated capacity indicator, or a load moment or rated capacity limiter. Temporary alternative measures: The weight of the load shall be determined from a source recognized by the industry, such as the load's manufacturer, or by a calculation method recognized by the industry, such as calculating a steel beam from measured dimensions and a known per foot weight, or by other equally reliable means. The employer shall ensure that this information is provided to the operator prior to the lift. See R 408.41053d for additional requirements.

(b) A load weight or capacity device that is not working properly shall be repaired not later than 30 days after the deficiency occurs. Exception: If the employer documents that it has ordered the necessary parts within 7 days of the occurrence of the deficiency and the part is not received in time to complete the repair in 30 days, the repair shall be completed within 7 days of receipt of the parts.

R 408.41085f Post-assembly approval and testing; new or reinstalled derricks.

Rule 1085f. (1) Anchorages, including the structure to which the derrick is attached, if applicable, must be approved by a qualified person.

(2) If a rock or hairpin anchorage is used, the qualified person shall determine if any special testing of the anchorage is needed. If so, it must be tested accordingly.

(3) Functional test. Prior to initial use, new or reinstalled derricks shall be tested by a competent person with no hook load to verify proper operation. This test shall include all of the following:

(a) Lifting and lowering the hook or hooks through the full range of hook travel.

(b) Raising and lowering the boom through the full range of boom travel.

(c) Swinging in each direction through the full range of swing.

(d) Actuating the anti-two-block and boom hoist limit devices, if provided.

(e) Actuating locking, limiting, and indicating devices, if provided.

(4) Load test. Prior to initial use, new or reinstalled derricks shall be load tested by a competent person. The test load shall meet all of the following requirements:

(a) Test loads shall be at least 100%, and not more than 110%, of the rated capacity, unless otherwise recommended by the manufacturer or qualified person. The test load shall not be less than the maximum anticipated load.

(b) The test shall consist of all of the following:

(i) Hoisting the test load a few inches and holding to verify that the load is supported by the derrick and held by the hoist brake or brakes.

(ii) Swinging the derrick, if applicable, the full range of its swing, at the maximum allowable working radius for the test load.

(iii) Booming the derrick up and down within the allowable working radius for the test load.

(iv) Lowering, stopping, and holding the load with the brake or brakes.

(c) The derrick shall not be used unless the competent person determines that the test has been passed.

(5) Documentation. The employer shall ensure that tests conducted under this rule are documented. The document shall contain the date, test results, and the name of the tester. The employer shall retain the document until the derrick is retested or dismantled, whichever occurs first. The employer shall make all of these documents available, during the applicable document

retention period, to all persons who conduct inspections in accordance with R 408.41037 to R 408.41037f.

R 408.41085g Additional requirements.

Rule 1085g. (1) Derricks that have had repairs, modifications, or additions affecting the derrick's capacity or safe operation shall be evaluated by a qualified person to determine if a load test is necessary. If a load test is needed, it shall be conducted and documented in accordance with R 408.41085f.

(2) If power fails during operations, the derrick operator shall safely stop operations, which shall include both of the following:

(a) Setting all brakes or locking devices.

(b) Moving all clutch and other power controls to the off position.

(3) When using a winch head, both of the following apply:

(a) Ropes shall not be handled on a winch head without the knowledge of the operator.

(b) While a winch head is being used, the operator shall be within reach of the power unit control lever.

(4) When securing a boom, both of the following apply:

(a) When the boom is being held in a fixed position, the operator must engage dogs, pawls, or other positive holding mechanisms on the boom hoist.

(b) When taken out of service for 30 days or more, the boom shall be secured by 1 of the following methods:

(i) Laid down.

(ii) Secured to a stationary member, as nearly under the head as possible, by attachment of a sling to the load block.

(iii) For guy derricks, lifted to a vertical position and secured to the mast.

(iv) For stiffleg derricks, secured against the stiffleg.

R 408.41085h Supervision; inspections; operator qualifications and training.

Rule 1085h. (1) The process of jumping the derrick shall be supervised by the assembly/disassembly director.

(2) Derrick operations shall be supervised by a competent person.

(3) In addition to the requirements in R 408.41037 to R 408.41037f, the following additional items shall be included in the inspections:

(a) Daily: Guys for proper tension.

(b) Both of the following items shall be included in annual inspections:

(i) Gudgeon pin for cracks, wear, and distortion.

(ii) Foundation supports for continued ability to sustain the imposed loads.

(4) The employer shall train each operator of a derrick on the safe operation of equipment the individual will operate. R 408.41061 to R 408.41061g do not apply.

## FLOATING AND LAND CRANES OR DERRICKS ON BARGES

R 408.41086 Supplemental requirements for floating and land cranes or derricks on barges.

Rule 1086. (1) This rule contains supplemental requirements for floating cranes or derricks, and land cranes or derricks on barges, pontoons, vessels, or other means of flotation device. The rules of this standard apply to floating cranes or derricks and land cranes or derricks on barges, pontoons, vessels, or other means of flotation, unless specified otherwise. The requirements of

this rule do not apply when using jacked barges when the jacks are deployed to the river, lake, or sea bed and the barge is fully supported by the jacks.

(2) The requirements in subrules (3) to (11) of this rule apply to both floating cranes or derricks and land cranes or derricks on barges, pontoons, vessels, or other means of flotation.

(3) The requirements of R 408.41057 apply, except for R 408.41057(2)(b).

(4) The employer shall do either of the following:

(a) Erect and maintain control lines, warning lines, railings, or similar barriers to mark the boundaries of the hazard areas.

(b) Clearly mark the hazard areas by a combination of warning signs, such as, "Danger—Swing or Crush Zone," and high visibility markings on the equipment that identify the hazard areas. In addition, the employer must train each employee to understand what these markings signify.

(5) The employer shall ensure that employees keep clear of the load. R 408.41058 does not apply.

(6) In addition to the safety devices listed in R 408.41040, the following safety devices are required:

(a) Barge, pontoon, vessel, or other means of flotation list and trim device. The safety device shall be located in the cab or, when there is no cab, at the operator's station.

(b) Positive equipment house lock.

(c) Wind speed and direction indicator. A competent person shall determine if wind is a factor that needs to be considered. If wind needs to be considered, a wind speed and direction indicator shall be used.

(7) An anti-two-block device is required only when hoisting personnel or hoisting over an occupied cofferdam or shaft.

(8) R 408.41052b(5) does not apply to dragline, clamshell, grapple, magnet, drop ball, container handling, concrete bucket, and pile driving work performed under this rule.

(9) If the crane or derrick has a cab, the requirements of R 408.410152(5) apply. If the crane or derrick does not have a cab, the employer shall ensure that both of the following are met:

(a) Rated capacities and load charts, are posted at the operator's station. If the operator's station is moveable, such as with pendant-controlled equipment, the load charts shall be posted on the equipment.

(b) Procedures, other than the load charts, applicable to the operation of the equipment, recommended operating speeds, special hazard warnings, instructions and operator's manual, shall be readily available on board the vessel or flotation device.

#### R 408.41086a Inspections.

Rule 1086a. (1) In addition to meeting the requirements of R 408.41037 to R 408.41037f for inspecting the crane or derrick, the employer shall inspect the barge, pontoons, vessel, or other means of flotation used to support a floating crane or derrick and land crane or derrick, and ensure that all of the requirements in this rule are met.

(2) Each shift. An employer shall ensure that for each shift inspection, the means used to secure or attach the equipment to the vessel or flotation device is in proper condition, including wear, corrosion, loose or missing fasteners, defective welds, and, when applicable, insufficient tension.

(3) Monthly. An employer shall ensure that for each monthly inspection all of the following are met:

(a) The means used to secure or attach the equipment to the vessel or flotation device is in proper condition, including inspection for wear, corrosion, and, when applicable, insufficient tension.

(b) The vessel or flotation device is not taking on water.

- (c) The deckload is properly secured.
- (d) The vessel or flotation device is watertight based on the condition of the chain lockers, storage, fuel compartments, and hatches.
- (e) The firefighting and lifesaving equipment is in place and functional.
- (4) Competent person. An employer shall ensure that the shift and monthly inspections are conducted by a competent person, resulting in the following:
  - (a) If any deficiency is identified, an immediate determination is made by a qualified person whether the deficiency constitutes a hazard.
  - (b) If the deficiency is determined to constitute a hazard, the vessel or flotation device is removed from service until the deficiency is corrected.
- (5) Annual external vessel or flotation device inspection. For each annual inspection, the employer shall ensure that all of the following are met:
  - (a) The external portion of the barge, pontoons, vessel, or other means of flotation used are inspected annually by a qualified person who has expertise with respect to vessels or flotation devices and that the inspection includes all of the following items:
    - (i) The items identified in subrules (2) and (3) of this rule.
    - (ii) Cleats, bitts, chocks, fenders, capstans, ladders, and stanchions, for significant corrosion, wear, deterioration, or deformation that could impair the function of these items.
    - (iii) External evidence of leaks and structural damage. Evidence of leaks and damage below the waterline may be determined through internal inspection of the vessel or flotation device.
    - (iv) Four-corner draft readings.
    - (v) Firefighting equipment for serviceability.
  - (b) Rescue skiffs, lifelines, work vests, life preservers, and ring buoys shall be inspected for proper condition.
  - (c) If any deficiency is identified, an immediate determination shall be made by the qualified person whether the deficiency constitutes a hazard or, though not yet a hazard, needs to be monitored in the monthly inspections resulting in the following:
    - (i) If the qualified person determines that the deficiency constitutes a hazard, the vessel or flotation device is removed from service until it is corrected. See requirements in R 408.41053b.
    - (ii) If the qualified person determines that, though not presently a hazard, the deficiency needs to be monitored, the deficiency is checked in the monthly inspections.
- (6) Four-year internal vessel or flotation device inspection. For each 4-year inspection, the employer shall ensure that the following are included:
  - (a) A marine engineer, marine architect, licensed surveyor, or other qualified person who has expertise with respect to vessels or flotation devices surveys the internal portion of the barge, pontoons, vessel, or other means of flotation.
  - (b) If the surveyor identifies a deficiency, an immediate determination is made by the surveyor as to whether the deficiency constitutes a hazard or, though not yet a hazard, needs to be monitored in the monthly or annual inspections, as appropriate. Both of the following apply:
    - (i) If the surveyor determines that the deficiency constitutes a hazard, the vessel or flotation device shall be removed from service until it has been corrected.
    - (ii) If the surveyor determines that, though not presently a hazard, the deficiency needs to be monitored, the deficiency shall be checked in the monthly or annual inspections, as appropriate.
- (7) Documentation. Both of the following requirements apply to documentation:
  - (a) The monthly and annual inspections required in subrules (3) and (5) of this rule shall be documented in accordance with R 408.41037d(3) and R 408.41037e(6).
  - (b) The employer shall ensure that the 4-year inspection required in subrule (6) of this rule is documented in accordance with R 408.41037e(6) except that the documentation for that

inspection must be retained for a minimum of 4 years. The employer shall make all of these documents available during the applicable document retention period to all persons who conduct inspections in accordance with R 408.41037 to R 408.41037f.

R 408.41086b Working with diver.

Rule 1086b. (1) The employer shall meet the requirements in subrules (2) to (5) of this rule when working with a diver in the water.

(2) If a crane or derrick is used to get a diver into and out of the water, the crane or derrick shall not be used for any other purpose until the diver is back on board. When used for more than 1 diver, a crane or derrick shall not be used for any other purpose until all divers are back on board.

(3) The operator shall remain at the controls of the crane or derrick at all times.

(4) In addition to the requirements in R 408.41055 to R 408.41055c, either of the following shall be met:

(a) A clear line of sight is maintained between the operator and tender.

(b) The signals between the operator and tender are transmitted electronically.

(5) The means used to secure the crane or derrick to the vessel or flotation device, as specified in R 408.41086f, shall not allow any amount of shifting in any direction.

R 408.41086c Manufacturer's specifications and limitations.

Rule 1086c. (1) The employer shall ensure that the barge, pontoons, vessel, or other means of flotation are capable of withstanding imposed environmental, operational and in transit loads when used in accordance with the manufacturer's specifications and limitations.

(2) The employer shall ensure that the manufacturer's specifications and limitations with respect to environmental, operational, and in transit loads for a barge, pontoon, vessel, or other means of flotation are not exceeded or violated.

(3) When the manufacturer's specifications and limitations are unavailable, the employer shall ensure that the specifications and limitations established by a qualified person with respect to environmental, operational, and in-transit loads for the barge, pontoons, vessel, or other means of flotation are not exceeded or violated.

R 408.41086d Floating cranes or derricks.

Rule 1086d. (1) For equipment designed by the manufacturer or employer for marine use by permanent attachment to barges, pontoons, vessels, or other means of flotation, all of the following shall be met.

(2) Both of the following apply to load charts:

(a) The employer shall not exceed the manufacturer load charts applicable to operations on water. When using these charts, the employer shall comply with all parameters and limitations, such as dynamic and environmental parameters, applicable to the use of the charts.

(b) The employer shall ensure that load charts take into consideration a minimum wind speed of 40 miles per hour.

(3) The employer shall ensure that the requirements for maximum allowable list and maximum allowable trim, as specified in Table 1086-1 of this rule, are met.

(4) The employer shall ensure that the equipment is stable under the conditions specified in Tables 1086-2 and 1086-3 of this rule.

Note: Freeboard means the vertical distance between the water line and the main deck of the vessel.

(5) If the equipment is employer-made, it shall not be used unless the employer has documents demonstrating that the load charts and applicable parameters for use meet the requirements of subrules (2) to (4) of this rule. These documents must be signed by a registered professional engineer who is a qualified person with respect to the design of this type of equipment, including the means of flotation.

(6) The employer shall ensure that the barge, pontoons, vessel, or other means of flotation used comply with all of the following:

(a) Are structurally sufficient to withstand the static and dynamic loads of the crane or derrick when operating at the crane or derrick’s maximum rated capacity with all planned and actual deck loads and ballasted compartments.

(b) Have a subdivided hull with 1 or more longitudinal watertight bulkheads for reducing the free-surface effect.

(c) Have access to void compartments to allow for inspection and pumping.

TABLE 1086-1 FLOATING AND LAND CRANES OR DERRICKS ON BARGES		
RATED CAPACITY	MAXIMUM ALLOWABLE LIST (degrees)	MAXIMUM ALLOWABLE TRIM (degrees)
Equipment designed for marine use by permanent attachment (other than derricks):		
25 tons or less	5	5
Over 25 tons	7	7
Derricks designed for marine use by permanent attachment:		
Any rated capacity	10	10

TABLE 1086-2 FLOATING AND LAND CRANES OR DERRICKS ON BARGES		
OPERATED AT	WIND SPEED (mph)	MINIMUM FREEBOARD (ft)
Rated capacity	60	2
Rated capacity plus 25%	60	1
High boom, no load	60	2

TABLE 1086-3 FLOATING AND LAND CRANES OR DERRICKS ON BARGES	
OPERATED AT	WIND SPEED
For backward stability of the boom: High boom, no load, full back list (least stable condition).	90 mph.

R 408.41086e Land cranes or derricks.

Rule 1086e. (1) For land cranes or derricks used on barges, pontoons, vessels, or other means of flotation, the employer shall ensure all of the requirements in subrules (2) to (5) of this rule are met.

(2) The rated capacity of the equipment, including, but not limited to, modification of load charts, applicable for use on land is reduced to do the following:

(a) Account for increased loading from list, trim, wave action, and wind.

(b) Be applicable to a specified location or locations on the specific barge, pontoons, vessel, or other means of flotation that is used, under the environmental conditions expected and encountered.

(c) The conditions required in subrules (4) and (5) of this rule are met.

(3) The rated capacity modification required in subrule (1) of this rule shall be performed by the equipment manufacturer, or a qualified person who has expertise with respect to both land crane or derrick capacity and the stability of vessels or flotation devices.

(4) For list and trim, the following apply:

(a) The maximum allowable list and the maximum allowable trim for the barge, pontoon, vessel, or other means of flotation shall not exceed the amount necessary to ensure that the conditions in subrule (5) this rule are met. In addition, the maximum allowable list and the maximum allowable trim shall not exceed the least of the following: 5 degrees, the amount specified by the crane or derrick manufacturer, or, when an amount is not specified, the amount specified by the qualified person.

(b) The maximum allowable list and the maximum allowable trim for the land crane or derrick shall not exceed the amount specified by the crane or derrick manufacturer, or, when an amount is not specified, the amount specified by the qualified person.

(5) The employer shall ensure that the following requirements are met:

(a) All deck surfaces of the barge, pontoons, vessel, or other means of flotation used must be above water.

(b) The entire bottom area of the barge, pontoons, vessel, or other means of flotation used must be submerged.

R 408.41086f Attachment, corraling, rails system, and centerline cable system options.

Rule 1086f. (1) Physical attachment, corraling, rails system, and centerline cable system shall meet the requirements in Option (1), Option (2), Option (3), or Option (4) described in subrules (2) to (5) of this rule. Whichever option is used shall also meet the requirements of subrule (6) of this rule.

(2) Option (1)—Physical attachment. The crane or derrick shall be physically attached to the barge, pontoons, vessel, or other means of flotation. Methods of physical attachment include crossed-cable systems attached to the crane or derrick and vessel or flotation device, bolting or welding the crane or derrick to the vessel or flotation device, strapping the crane or derrick to the vessel or flotation device with chains, or other methods of physical attachment.

(3) Option (2)—Corraling. The crane or derrick shall be prevented from shifting by installing barricade restraints, such as a corraling system. The employer shall ensure that corraling systems do not allow the equipment to shift by any amount in any direction.

(4) Option (3)—Rails. The crane or derrick shall be prevented from shifting by being mounted on a rail system. The employer shall ensure that rail clamps and rail stops are used unless the system is designed to prevent movement during operation by other means.

(5) Option (4)—Centerline cable system. The crane or derrick shall be prevented from shifting by being mounted to a wire rope system. The employer shall ensure that the wire rope system meets the following requirements:

(a) The wire rope and attachments are of sufficient size and strength to support the side load of crane or derrick.

(b) The wire rope is attached physically to the vessel or flotation device.

(c) The wire rope is attached to the crane or derrick by appropriate attachment methods, such as shackles or sheaves, on the undercarriage, and that the method used will allow the crew to secure the crane or derrick from movement during operation and to move the crane or derrick longitudinally along the vessel or flotation device for repositioning.

(d) Means are installed to prevent the crane or derrick from passing the forward or aft end of the wire rope attachments.

(e) The crane or derrick is secured from movement during operation.

(6) The systems or means used to comply with Option (1), Option (2), Option (3), or Option (4) described in subrules (2) to (5) of this rule shall be designed by a marine engineer, registered professional engineer familiar with floating crane or derrick design, or qualified person familiar with floating crane or derrick design.

#### R 408.41086g Exceptions.

Rule 1086g. (1) For mobile auxiliary cranes used on the deck of a floating crane or derrick, the requirement specified by R 408.41086f to use Option (1), Option (2), Option (3), or Option (4) does not apply when the employer demonstrates implementation of a plan and procedures that meet the following requirements:

(a) A marine engineer or registered professional engineer familiar with floating crane or derrick design develops and signs a written plan for the use of the mobile auxiliary crane.

(b) The plan is designed so that the applicable requirements of this rule will be met despite the position, travel, operation, and lack of physical attachment, or corraling, use of rails or cable system, of the mobile auxiliary crane.

(c) The plan specifies the areas of the deck where the mobile auxiliary crane is permitted to be positioned, travel, and operate, and the parameters and limitations of such movements and operation.

(d) The deck is marked to identify the permitted areas for positioning, travel, and operation.

(e) The plan specifies the dynamic and environmental conditions that must be present for use of the plan.

(f) If the dynamic and environmental conditions in subrule (1)(e) of this rule are exceeded, the mobile auxiliary crane shall be attached physically or corralled according to Option (1), Option (2) or Option (4) of R 408.41086f.

(2) The barge, pontoons, vessel, or other means of flotation used shall comply with the following:

(a) Be structurally sufficient to withstand the static and dynamic loads of the crane or derrick when operating at the crane's or derrick's maximum rated capacity with all anticipated deck loads and ballasted compartments.

(b) Have a subdivided hull with 1 or more longitudinal watertight bulkheads for reducing the free surface effect.

(c) Have access to void compartments to allow for inspection and pumping.

#### OVERHEAD AND GANTRY CRANES

R 408.41087 Overhead and gantry cranes.

Rule 1087. (1) All overhead and gantry cranes when used in construction and are permanently installed in a facility shall comply with the applicable requirements for design, construction, installation, testing, maintenance, inspection, and operation as prescribed in General Industry Safety Standard Part 18 “Overhead and Gantry Cranes,” as referenced in R 408.41003e, and shall comply with the requirements of R 408.41061 to R 408.41061g.

(2) This rule shall apply to all of the following overhead and gantry cranes when used in construction and that are not permanently installed in a facility:

- (a) Overhead and gantry cranes.
- (b) Overhead and bridge cranes.
- (c) Semi-gantry.
- (d) Cantilever gantry.
- (e) Wall cranes.
- (f) Storage bridge cranes.
- (g) Launching gantry cranes.
- (h) Similar equipment having the same fundamental characteristics, irrespective of whether it travels on tracks, wheels, or other means.

(3) The following requirements in Table 1044-1 apply to equipment identified in subrule (2) of this rule:

(4) The following requirements in Table 1044-2 apply to equipment identified in subrule (2) of this rule from the following portions of General Industry Safety Standard Part 18 “Overhead and Gantry Cranes,” as referenced in R 408.41003e.

(5) The following requirements in Table 1044-3 apply to equipment identified in subrule (2) of this rule:

(a) The definitions in General Industry Safety Standard Part 18 “Overhead and Gantry Cranes,” as referenced in R 408.41003e, except for "hoist" and "load." For those terms, the definitions in this standard apply.

(b) GI Part 18 R 408.11821(3), but only when the equipment identified in subrule (1) of this rule was manufactured before September 19, 2001.

(c) For equipment manufactured on or after September 19, 2001, the sections of ASME B30.2 “Overhead and Gantry Cranes (Top Running Bridge, Single or Multiple Girder, Top Running Trolley Hoist),” 2005 edition, as adopted in R 408.41003a, apply, as identified in Table 1044-3.

TABLE 1044-1 OVERHEAD AND GANTRY CRANES	
SECTIONS	RULES
Scope	R 408.41001
Definitions	R 408.41006 to R 408.41006e
Ground conditions	R 408.41007
Assembly Or Disassembly	R 408.41035 to R 408.41035d
Power line safety	R 408.41036 to R 408.41036d
Equipment inspection requirements	R 408.41037 to R 408.41037f
Wire Rope Inspection Requirements	R 408.41038 to R 408.41038c
Wire Rope Selection And Installation	R 408.41039 to R 408.41039b
Operations	R 408.41053 to R 408.41053g
Authority To Stop Operations	R 408.41054
Signal Requirements	R 408.41055 to R 408.41055c
Fall Protection	R 408.41056 to R 408.41056i
Work Area Control	R 408.41057
Keeping Clear Of The Load	R 408.41058
Controlled Load Lowering	R 408.41060c
Operator Qualification And Certification	R 408.41061 to R 408.41061g
Signal Person Qualifications	R 408.41062
Qualifications of Maintenance and Repair Employees	R 408.41063
Hoisting Personnel	R 408.41080 to R 408.41080o
Critical Lifts	R 408.41081
Design, Construction, And Testing	R 408.41082 to R 408.41082g
Equipment Modifications	R 408.41083
Floating And Land Cranes Or Derricks On Barges	R 408.41086 to R 408.41086g
Dedicated Pile Drivers	R 408.41088
Equipment With A Rated Hoisting Or Lifting Capacity Of 2,000 Pounds Or Less	R 408.41090 to R 408.41090e

TABLE 1044-2 GENERAL INDUSTRY SAFETY STANDARD PART 18 “OVERHEAD AND GANTRY CRANES”		
RULE NUMBER	RULE TITLE	SPECIFIC RULE
CONSTRUCTION, INSTALLATION AND EQUIPMENT		
R 408.11821	Certification; modification; guards; adoption of standards by reference	(5)
R 408.11822	Marking rated capacity; classifications; clearances	(1), (3), (4)
R 408.11824	Wire rope	(10)

R 408.11827	Sheaves	(1)
R 408.11832	Trolley stops	(1)
R 408.11833	Bridge bumpers; trolley bumpers; rail sweeps	(3)
R 408.11843	Controls	(13)
OPERATORS AND OPERATIONS		
R 408.11855	Limitations on use of cranes	(4)
R 408.11861	General conduct of operators	(1)(b)
R 408.11865	Lifting	(2)(b)
R 408.11872	Frequent and periodic inspections	(1)
R 408.11873	Operational tests	(1)

TABLE 1044-3 ASME B30.2 “OVERHEAD AND GANTRY CRANES” (Top Running Bridge, Single or Multiple Girder, Top Running Trolley Hoist) 2005 edition	
CHAPTERS	RULES
2.1 General Construction and Installation	2-1.3.1
	2-1.3.2
	2-1.4.1
	2-1.6
	2-1.7.2
	2-1.8.2
	2-1.9.1
	2-1.9.2
	2-1.11
	2-1.12.2
	2-1.13.7
	2-1.14.2
	2-1.14.3
	2-1.14.5
2-1.15.	
2.2 Inspection, Testing, and Maintenance	2-2.2.2
	2-3.2.1.1.
In addition, 2-3.5 shall apply, except in 2-3.5.1(b), “29 CFR 1910.147” is substituted for “ANSI Z244.1.”	

DEDICATED PILE DRIVERS

R 408.41088 Dedicated pile drivers.

Rule 1088. (1) The provisions of this standard apply to dedicated pile drivers, except as specified in this rule.

(2) R 408.41052a(4) anti two-blocking device does not apply to dedicated pile drivers.

(3) R 408.41052b(5) load weighing and similar devices shall apply only to dedicated pile drivers manufactured after November 8, 2011.

(4) R 408.41082c to R 408.41082g apply to dedicated pile drivers.

## SIDEBOOM CRANES

R 408.41089 Sideboom cranes.

Rule 1089. (1) The provisions of this standard apply, except for the following:

(a) R 408.41006b(14).

(b) R 408.41040.

(c) R 408.41052 to R 408.41052b.

(d) R 408.41061 to R 408.41061g.

(2) R 408.41060 shall apply, except R 408.41060(2)(a). Sideboom cranes in which the boom is designed to free fall, live boom, are permitted only if manufactured prior to November 8, 2010.

(3) Sideboom cranes mounted on wheel or crawler tractors shall meet all of the following requirements of ASME B30.14 “Side Boom Tractors,” 2004 edition, as adopted in R 408.41003a:

(a) Section 14–1.1 (“Load Ratings”).

(b) Section 14–1.3 (“Side Boom Tractor Travel”).

(c) Section 14–1.5 (“Ropes and Reeving Accessories”).

(d) Section 14–1.7.1 (“Booms”).

(e) Section 14–1.7.2 (“General Requirements-Exhaust Gases”).

(f) Section 14–1.7.3 (“General Requirements-Stabilizers (Wheel-Type Side Boom Tractors)”).

(g) Section 14–1.7.4 (“General Requirements-Welded Construction”).

(h) Section 14–1.7.6 (“General Requirements-Clutch and Brake Protection”).

(i) Section 14–2.2.2 (“Testing—Rated Load Test”), except that it shall apply only to equipment that has been altered or modified.

(j) In section 14–3.1.2 (“Operator Qualifications”), paragraph (a), except the phrase “When required by law.”

(k) In section 14–3.1.3 (“Operating Practices”), paragraphs (e), (f)(1) to (4), (f)(6), (f)(7), (h), and (i).

(l) In section 14–3.2.3 (“Moving the Load”), paragraphs (j), (l), and (m).

## EQUIPMENT WITH A RATED HOISTING OR LIFTING CAPACITY OF 2,000 POUNDS OR LESS

R 408.41090 Equipment with a rated hoisting or lifting capacity of 2,000 pounds or less.

Rule 1090. (1) This rule specifies requirements for employers using equipment with a maximum rated hoisting or lifting capacity of 2,000 pounds or less.

(2) The employer using equipment described in subrule (1) of this rule shall comply with the following provisions in Table 1048:

TABLE 1048 EQUIPMENT WITH A RATED HOISTING OR LIFTING CAPACITY OF 2,000 POUNDS OR LESS.	
SECTIONS	RULES
Scope	R 408.41001
Definitions	R 408.41006 to R 408.41006e
Ground conditions	R 408.41007
Assembly or Disassembly	R 408.41035 to R 408.41035d
Power line safety	R 408.41036 to R 408.41036d
Post-assembly inspection.	R 408.41037b
Wire Rope Inspection Requirements	R 408.41038 to R 408.41038c
Wire Rope Selection And Installation	R 408.41039 to R 408.41039b
Authority to stop operation.	R 408.41054
Signal Requirements	R 408.41055 to R 408.41055c
Fall Protection	R 408.41056 to R 408.41056i
Keeping Clear Of The Load	R 408.41058 except for R 408.41058(3)(c)
Free Fall And Controlled Load Lowering	R 408.41060 to R 408.41060c
Critical Lifts	R 408.41081
Equipment Modifications	R 408.41083
Tower Cranes	R 408.41084 to R 408.41084f
Derricks	R 408.41085 to R 408.41085h
Floating And Land Cranes Or Derricks On Barges	R 408.41086 to R 408.41086g
Overhead And Gantry Cranes	R 408.41087

R 408.41090a Assembly or disassembly.

Rule 1090a. (1) In addition to complying with R 408.41035 and R 408.41035c, the employer shall comply with subrules (2) and (3) of this rule.

(2) Components and configuration. The employer shall ensure the following:

(a) The selection of components, and the configuration of the equipment, that affect the capacity or safe operation of the equipment complies with 1 of the following:

(i) Manufacturer's instructions, recommendations, limitations, and specifications. When these documents and information are unavailable, a registered professional engineer familiar with the type of equipment involved shall approve, in writing, the selection and configuration of components.

(ii) Approved modifications that meet the requirements of R 408.41083.

(b) Post-assembly inspection. Upon completion of assembly, the equipment shall be inspected to ensure that it complies with subdivision (a) of this subrule. See R 408.41037b for post assembly inspection requirements.

(3) Manufacturer prohibitions. The employer shall comply with applicable manufacturer prohibitions.

R 408.41090b Operation procedures.

Rule 1090b. (1) The employer shall comply with all manufacturer procedures applicable to the operational functions of the equipment, including its use with attachments.

(2) Unavailable operation procedures. The employer shall comply with the following:

(a) When the manufacturer's procedures are unavailable, develop and ensure compliance with all procedures necessary for the safe operation of the equipment and attachments.

(b) Ensure that procedures for the operational controls are developed by a qualified person.

(c) Ensure that procedures related to the capacity of the equipment are developed and signed by a registered professional engineer who is familiar with the equipment.

(3) Accessibility. The employer shall ensure all of the following:

(a) The load chart is available to the operator at the control station.

(b) Procedures applicable to the operation of the equipment, recommended operating speeds, special hazard warnings, instructions, and operator's manual are readily available for use by the operator.

(c) When rated capacities are available at the control station only in electronic form and a failure occurs that makes the rated capacities inaccessible, the operator immediately ceases operations or follows safe shut-down procedures until the rated capacities, in electronic or other form, are available.

R 408.41090c Safety devices and operational aids.

Rule 1090c. (1) The employer shall ensure that safety devices and operational aids that are part of the original equipment are maintained in accordance with manufacturer procedures.

(2) Anti two-blocking. The employer shall ensure that equipment covered by this rule manufactured more than 1 year after November 8, 2010 have either an anti-two block device that meets the requirements of R 408.41052a(4) or is designed so that in the event of a two-block situation no damage or load failure will occur, such as by using a power unit that stalls in response to a two-block situation.

R 408.41090d Operator and signal person qualifications.

Rule 1090d. (1) The employer shall train each operator, prior to operating the equipment, on the safe operation of the type of equipment the operator will be using.

(2) The employer shall train each signal person in the proper use of signals applicable to the use of the equipment.

R 408.41090e Inspections; hoisting personnel; design criteria.

Rule 1090e. (1) The employer shall ensure that equipment is inspected in accordance with manufacturer procedures.

(2) The employer shall ensure that equipment covered by this standard is not used to hoist personnel.

(3) The employer shall ensure that the equipment is designed by a qualified engineer.

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**ADMINISTRATIVE RULES**

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DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS

DIRECTOR'S OFFICE

OCCUPATIONAL HEALTH STANDARDS

Filed with the Secretary of State on March 24, 2016

These rules become effective immediately upon filing with the Secretary of State unless adopted under section 33, 44, or 45a(6) 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 director of the department of licensing and regulatory affairs by sections 14 and 24 of 1974 PA 154, MCL 408.1014 and 408.1024; and Executive Reorganization Orders Nos. 1996-1, 1996-2, 2003-1, 2008-4, and 2011-4, MCL 330.3101, 445.2001, 445.2011, 445.2025, and 445.2030.)

R 325.52001, R 325.52002, R 325.52003, R 325.52005, R 325.52008, and R 325.52011 of the Michigan Administrative Code are amended as follows:

PART 520. VENTILATION CONTROL

R 325.52001 Scope.

Rule 1. These rules apply to all processes and places of employment.

R 325.52002 Reference of standards.

Rule 2. The following Michigan occupational safety and health standards (MIOSHA) 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, 530 West Allegan Street, P.O. Box 30643, Lansing, Michigan, 48909-8143 or via the internet at web-site: [www.michigan.gov/mioshastandards](http://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) Occupational Health Standard Part 301 "Air Contaminants for General Industry," R 325.51101 to R 325.51108.

(b) Occupational Health Standard Part 526 "Dipping and Coating Operations," R 325.52601 to R 325.52602.

(c) General Industry Safety Standard Part 76 "Spray Finishing Using Flammable and Combustible Materials," R 408.17601 to R 408.17699.

R 325.52003 Definitions.

Rule 3. (1) "Aerosol" means particulate matter suspended in air.

(2) "Contaminant" means an airborne material capable of causing occupational disease or significant physiological disturbances to a person, and includes, but is not limited to, the

substances listed in Occupational Health Standard Part 301 “Air Contaminants for General Industry,” as referenced in R 325.52002.

(3) "Control" means the limitation of worker exposure to contaminant levels not exceeding the exposure limits as set forth in Occupational Health Standard Part 301 “Air Contaminants for General Industry,” as referenced in R 325.52002.

(4) "Controlled process" means an arrangement of equipment to control the contaminant by means of suitable design measures.

(5) "Enclosure" means a room, booth, or exhaust hood that confines contaminants at their sources.

(6) "Gas" means a normally formless fluid that occupies a space or enclosure and that can be changed to the liquid or solid state by the effect of increased pressure or decreased temperature, or both.

(7) "General ventilation" means the supply and removal of air from a space to dilute or remove contaminants.

(8) "Local exhaust ventilation system" means an arrangement of exhaust hoods, ducts, and fans that removes air to control a contaminant at its source.

(9) "Mg/m<sup>3</sup>" means milligrams of particulate per cubic meter of air.

(10) "Mppcf" means millions of particulates per cubic foot of air based on impinger samples counted by light field microscopic techniques.

(11) "Ppm" means parts of vapor or gas per million parts of air by volume at 25 degrees Celsius and 760 millimeters of mercury pressure.

(12) "Permissible exposure limits" means the exposure limits as set forth in Occupational Health Standard Part 301 “Air Contaminants for General Industry,” as referenced in R 325.52002.

(13) "Process space" means a tunnel, process equipment, shaft, or enclosed space.

(14) "Source" means a process or equipment that releases a contaminant into the air in concentrations exceeding the permissible exposure limits.

(15) "Supply ventilation system" means an arrangement of inlet openings or equipment to introduce outside air into the working environment.

(16) "Vapor" means the gaseous state of a substance.

#### R 325.52005 Supply ventilation systems.

Rule 5. (1) An employer shall provide a supply ventilation system to ensure a flow of air into the working environment to equally replace the volume of air exhausted.

(2) An employer shall provide a mechanical air supply system if its absence will result in building negative pressures sufficient to cause back-drafting of vents from fuel-fired equipment or ineffective control.

(3) Mechanical air supply volumes shall be heated to maintain a minimum air temperature of 65 degrees Fahrenheit measured at the point of air discharge to the space. Exceptions to this requirement are refrigerated storage rooms, special process rooms, and similar locations where low air temperatures are essential to the preservation of the product or service, or, if in the opinion of the director, a lower air temperature will not be harmful to the health of the persons affected.

(4) Make-up air for spray-finishing operations shall be as prescribed in General Industry Safety Standard Part 76 “Spray Finishing Using Flammable and Combustible Materials,” as referenced in R 325.52002.

(5) Make-up air for open surface tanks shall be as prescribed in Occupational Health Standard Part 526 “Dipping and Coating Operations,” as referenced in R 325.52002.

R 325.52008 Local exhaust ventilation.

Rule 8. (1) An employer shall provide local exhaust ventilation at all stationary sources. The director may allow a variance from this subrule if control is accomplished with general ventilation.

(2) If a local exhaust system is used, then the exhaust air volume shall create an in-draft air volume at an enclosure, hood, duct, or fan sufficient to control the contaminant.

(3) A local exhaust system shall be designed to capture and control the contaminant. Distribution of exhaust air between various exhaust points may be accomplished by balanced duct design. If balancing gates are used, they shall be locked permanently in place after final adjustment.

(4) An employer shall ensure that the design and construction of a local exhaust ventilation system is adequate for the contaminant and conditions of service. A listing of practical ventilation texts and references shall be available from the director upon request. Technical information and experience regarding specific contaminants and control measures may be obtained from the director.

R 325.52011 Recirculation of air from exhaust systems.

Rule 11.(1) The recirculation of air containing a contaminant whose permissible exposure limit is equal to or exceeds 1000 ppm, 15 mg/m<sup>3</sup>, or 50 mppcf, shall be permitted if the exhaust ventilation system is equipped with an air-cleaning device capable of reducing the contaminant concentrations to 10% or less of their permissible exposure limits in the returned air.

(2) The director may allow the recirculation of air containing a contaminant whose permissible exposure limit is less than 1000 ppm, 15 mg/m<sup>3</sup>, or 50 mppcf, if the toxicity of the contaminant and the degree of air cleaning to be achieved create an environment that will not impair the health of the workers, and if the contaminant concentrations in the return air does not exceed 10% of its permissible exposure limits.

(3) A recirculation system shall include an alternate air duct connection to discharge the return air outside of the building if necessary to protect the workers' health.

(4) Spray-finishing operations using flammable and combustible materials shall be as prescribed in General Industry Safety Standard Part 76 "Spray Finishing Using Flammable and Combustible Materials," as referenced in R 325.52002.

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**PROPOSED ADMINISTRATIVE RULES,  
NOTICES OF PUBLIC HEARINGS**

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*MCL 24.242(3) states in part:*

*“... the agency shall submit a copy of the notice of public hearing to the Office of Regulatory Reform for publication in the Michigan register. An agency's notice shall be published in the Michigan register before the public hearing and the agency shall file a copy of the notice of public hearing with the Office of Regulatory Reform.”*

*MCL 24.208 states in part:*

*“Sec. 8. (1) The Office of Regulatory Reform shall publish the Michigan register at least once each month. The Michigan register shall contain all of the following:*

\*       \*       \*

*(d) Proposed administrative rules.*

*(e) Notices of public hearings on proposed administrative rules.”*

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**PROPOSED ADMINISTRATIVE RULES**

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DEPARTMENT OF ENVIRONMENTAL QUALITY

AIR QUALITY DIVISION

**AIR POLLUTION CONTROL**

~~PART 9. EMISSION LIMITATIONS AND PROHIBITIONS - MISCELLANEOUS~~

Proposed draft March 24, 2016

Filed with the Secretary of State on

These rules become effective immediately upon filing with the Secretary of State, unless adopted under section 33, 44, or 45a(6) 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 director of the department of environmental quality by sections 5503 and 5512 of 1994 PA 451, MCL 324.5503 and ~~MCL 324.5512~~, and **Executive Reorganization Order Nos. 1995-16, 2009-31, and 2011-1, MCL 324.99903, 324.99919, and 324.99921**)

R 336.1902, R 336.1916, and R 336.1930 of the Michigan Administrative Code are amended and R 336.1973 is added to the Code, to read as follows:

**PART 9. EMISSION LIMITATIONS AND PROHIBITIONS - MISCELLANEOUS**

R 336.1902 Adoption of standards by reference.

Rule 902. (1) The following standards are adopted by reference in these rules. Copies are available for inspection and purchase at the Air Quality Division, Department of Environmental Quality, 525 West Allegan Street, Lansing, Michigan 48909-7760, at a cost as of the time of adoption of these rules (AQD price). Copies may also be obtained from the Superintendent of Documents, U.S. Government ~~Printing~~**Publishing** Office, 732 North Capitol Street, NW, Washington, DC 20401, or by accessing their online bookstore at <http://bookstore.gpo.gov> at a cost as of the time of adoption of these rules (GPO price). The standards can also be viewed and/or printed free of charge at <http://ecfr.gpoaccessbookstore.gpo.gov>.

(a) “National Primary and Secondary Ambient Air Quality Standards,” 40 C.F.R. Part 50 (20135), AQD price \$61.00/\$51.00 GPO price for Part 50 through Part 51.

(b) The following sections of “Requirements for Preparation, Adoption, and Submittal of Implementation Plans,” 40 C.F.R. Part 51 (20135), AQD price \$61.00/\$51.00 GPO price for Part 50 through Part 51:

(i) “Definitions,” 40 C.F.R. §51.100.

(ii) “Legally enforceable procedures,” 40 C.F.R. §51.160.

(iii) “Permit requirements,” 40 C.F.R. §51.165.

(iv) “Prevention of significant deterioration of air quality,” 40 C.F.R. §51.166.

- (v) “Definitions,” 40 C.F.R. §51.301.
- (vi) “Sources That Would Locate in a Designated Nonattainment Area,” Appendix S.
- (vii) “Recommended Test Methods for State Implementation Plans,” Appendix M.
- (viii) “Guideline on Air Quality Models,” Appendix W.
- (ix) “Guidelines for BART Determinations under the Regional Haze Rule,” Appendix Y.
- (c) “Prevention of Significant Deterioration of Air Quality,” 40 C.F.R. §52.21 (20135); AQD price \$74.00/\$64.00 GPO price for Part 52 (52.01 through 52.1018).
- (d) “Quality Assurance Requirements for Prevention of Significant Deterioration Air Monitoring,” 40 C.F.R. §58, Appendix B (20135); AQD price \$46.00/\$36.00 GPO price for Part 53 through Part 59.
- (e) “Standards of Performance for New Stationary Sources,” 40 C.F.R. Part 60, except 40 C.F.R. Part 60, Subpart AAA, “Standards of Performance for New Residential Wood Heaters” (20135); AQD price \$74.00/\$64.00 GPO price for Part 60 (60.1 to end).
- (f) “Appendices,” 40 C.F.R. Part 60 (20135); AQD price \$73.00/\$63.00 GPO price for Part 60 Appendices.
- (g) “National Emission Standards for Hazardous Air Pollutants,” 40 C.F.R. Part 61 (20135); AQD price \$61.00/\$51.00 GPO price for Part 61 through Part 62.
- (h) The following sections of “Federal Plan Requirements for Large Municipal Waste Combustors Constructed on or Before September 20, 1994,” 40 C.F.R. Part 62, Subpart FFF (2015); AQD price \$61.00/\$51.00 GPO price for Part 61 and Part 62:**
  - (i) “Emission limits for municipal waste combustor metals, acid gases, organics, and nitrogen oxides,” §62.14103.**
  - (ii) Tables 2 to 5 of Subpart FFF to Part 62.**
  - (iii) 62.14102 Affected Facilities**
  - (hi)** “National Emission Standards for Hazardous Air Pollutants for Source Categories,” 40 C.F.R. Part 63, Subpart A to Z (~~2014~~**2015**); AQD price \$74.00/\$64.00 GPO price.
  - (hj)** “National Emission Standards for Hazardous Air Pollutants for Source Categories (Continued),” 40 C.F.R. Part 63, Subpart AA to DDD (20145); AQD price \$63.00/\$53.00 GPO price.
  - (jk)** “National Emission Standards for Hazardous Air Pollutants for Source Categories (Continued),” 40 C.F.R. Part 63, Subpart EEE to PPP (20145); AQD price \$66.00/\$56.00 GPO price.
  - (kl)** “National Emission Standards for Hazardous Air Pollutants for Source Categories (Continued),” 40 C.F.R. Part 63, Subpart QQQ to YYYY (20145); AQD price \$47.00/\$37.00 GPO price.
  - (lm)** “National Emission Standards for Hazardous Air Pollutants for Source Categories (Continued),” 40 C.F.R. Part 63, Subpart ZZZZ to MMMMM (20145); AQD price \$50/\$40 GPO price.
  - (mn)** “National Emission Standards for Hazardous Air Pollutants for Source Categories (Continued),” 40 C.F.R. Part 63, Subpart NNNNN to end (20145); AQD price \$50.00/\$40.00 GPO price.
- (no)** “Compliance Assurance Monitoring,” 40 C.F.R. Part 64 (20135); AQD price \$44.00/\$34.00 GPO price for Part 64 through Part 71.
- (op)** The following sections of “State Operating Permit Programs,” Part 70 (20135); AQD price \$44.00/\$34.00 GPO price for Part 64 through Part 71:
  - (i) “Applicability,” 40 C.F.R. §70.3.
  - (ii) “Re-openings for cause by EPA,” 40 C.F.R. §70.7(g).

- (iii) “Transmission of information to the Administrator,” 40 C.F.R. §70.8(a)(1) and (2).
  - (iv) “EPA objection,” 40 C.F.R. §70.8(c).
  - (v) “Public petitions to the Administrator,” 40 C.F.R. §70.8(d).
  - ~~(pq)~~ “Permit Regulations,” 40 C.F.R. Part 72 (20135); AQD price \$78.00/\$68.00 GPO price for Part 72 through Part 80.
  - ~~(qr)~~ “Sulfur Dioxide Opt-Ins,” 40 C.F.R. Part 74 (20135); AQD price \$78.00/\$68.00 GPO price for Part 72 through Part 80.
  - ~~(rs)~~ “Continuous Emission Monitoring,” 40 C.F.R. Part 75 (20135); AQD price \$78.00/\$68.00 GPO price for Part 72 through Part 80.
  - ~~(st)~~ “Acid Rain Nitrogen Oxides Emission Reduction Program,” 40 C.F.R. Part 76 (20135); AQD price \$78.00/\$68.00 GPO price for Part 72 through Part 80.
  - ~~(tu)~~ “Federal NOx Budget Trading Program and CAIR NOx and SO2 Trading Programs,” 40 C.F.R. Part 97 (20135); AQD price \$76.00/\$66.00 GPO price for Part 96 through Part 99.
  - ~~(uv)~~ “Global Warming Potentials,” 40 C.F.R. Part 98, Subpart A, Table A-1 (20135); AQD Price \$76.00/\$66.00 GPO price for Part 96 to Part 99.
  - ~~(v)~~ “Federal Power Act,” 16 U.S.C. §§796 (17)(C) and (18)(B) (2012); AQD Price \$142.00/\$132.00 GPO price for Section 344 through Section 856.
  - ~~(w)~~ “Solid Waste Disposal Act, Section 3005,” 42 U.S.C. §6925 (2012); AQD Price \$68.50/\$58.50 GPO price for Sections 6201 to end.
- (2) The following United States Environmental Protection Agency (U.S. EPA) documents are adopted by reference in these rules. A copy is available for inspection and purchase at the Air Quality Division, Department of Environmental Quality, 525 West Allegan Street, Lansing, MI 48909-7760, at a cost as of the time of adoption of these rules of \$20.00 each. A copy may also be obtained from the U.S. ~~EPA Environmental Protection Agency~~, Office of the Science Advisor, 1200 Pennsylvania Avenue, NW, Washington, DC 20460 or on the U.S. EPA website, www.epa.gov, free of charge as of the time of adoption of these rules.
- (a) “Advances in Inhalation Gas Dosimetry for Derivation of a Reference Concentration (RfC) and Use in Risk Assessment,” EPA/600/R-12/044, September 2012.
  - ~~(b) “Guidelines for Carcinogen Risk Assessment, and Supplemental Guidance for Assessing Susceptibility from Early Life Exposure to Carcinogens,” 2005.~~ **Alternative Control Techniques Document: NOx Emissions from Cement Manufacturing,” EPA-453/R-94-004, 1994.**
  - ~~(c) “Protocol for Determining the Daily Volatile Compound Emission Rate of Automobile and Light-duty Truck Topcoat Operations,” EPA-450/3-88-018, December 1988.~~ **Benchmark Dose Technical Guidance,” EPA/100/R-12/001, June 2012.**
  - ~~(d) “Benchmark Dose Technical Guidance,” EPA/100/R-12/001, June 2012.~~ **Compilation of Air Pollution Emission Factors. Volume 1, Stationary Point and Air Sources,” EPA-450/AP-425-ED, January 1995.**
  - (e) “Control of Volatile Organic Emissions from Manufacture of Synthesized Pharmaceutical Products, **Appendix B**,” EPA-450/2-78-029, December 1978.
  - ~~(f) “Alternative Control Techniques Document: NOx Emissions from Cement Manufacturing,” EPA-453/R-94-004, 1994.~~ **Guidelines for Carcinogen Risk Assessment,” EPA/630/P-03/001B, March 2005.**
  - ~~(g) “Compilation of Air Pollution Emission Factors. Volume 1, Stationary Point and Air Sources,” EPA-450/AP-425-ED, January 1995.~~ **Protocol for Determining the Daily Volatile Compound Emission Rate of Automobile and Light-duty Truck Topcoat Operations,” EPA-450/3-88-018, December 1988.**

**(h) “Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens,” EPA/630/R-03/003F, March 2005.**

(3) The following Federal Register documents are adopted by reference in these rules. A copy is available for inspection and purchase at the Air Quality Division, Department of Environmental Quality, 525 West Allegan Street, Lansing, MI 48909-7760, at a cost as of the time of adoption of these rules of \$10.00 **each**:

(a) U.S. EPA Emissions Trading Policy statement, 51 F.R. 43814, December 4, 1986.

(b) U.S. EPA Recommended Policy on Control of Volatile Organic Compounds, **Table 1**, 42 FR 35314, July 8, 1977.

(4) The following standards are adopted by reference in these rules. Copies are available for inspection and purchase at the Air Quality Division, Department of Environmental Quality, 525 West Allegan Street, Lansing, Michigan 48909-7760, at the cost as of the time of adoption of these rules (AQD price). Copies may also be obtained from ASTM International, P.O. Box C700, West Conshohocken, Pennsylvania 19428-2959 or on the ASTM website, www.astm.org, at a cost as of the time of adoption of these rules (ASTM price):

(a) Standard Test Method for Distillation of Petroleum Products at Atmospheric Pressure, ASTM method D86, 2012; AQD price ~~\$6074.00~~/~~\$5064.00~~ ASTM price.

(b) Standard Test Method for Pour Point of Petroleum Products, ASTM D97, 2012**5**; AQD price ~~\$524.00~~/~~\$424.00~~ ASTM price.

(c) Standard Test Method for Vapor Pressure of Petroleum Products, ASTM D323, 2008**15**; AQD price ~~\$5260.00~~/~~\$4250.00~~ ASTM price.

(d) Standard Specification for Fuel Oils, ASTM D396, 2013**5**; AQD price ~~\$5260.00~~/~~\$4250.00~~ ASTM price.

(e) Standard Test Method for Distillation of Cutback Asphaltic (Bituminous) Products, ASTM D402, 2008; AQD price ~~\$562.080~~/~~\$452.080~~ ASTM price.

(f) Standard Specification for Aviation Gasolines, ASTM D910, 2013**5**; AQD price ~~\$524.00~~/~~\$424.00~~ ASTM price.

(g) Standard Specification for Diesel Fuel Oils, ASTM D975, 2014**2015**; AQD price ~~\$704.00~~/~~\$604.00~~ ASTM price.

(h) Standard Specification for Aviation Turbine Fuels, ASTM D1655, 2013**5**; AQD price ~~\$5860.00~~/~~\$4850.00~~ ASTM price.

(i) Standard Specification for Gas Turbine Fuel Oils, ASTM D2880, 2013**5**; AQD price ~~\$4954.00~~/~~\$3944.00~~ ASTM price.

(j) Standard Test Method for Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Concentration in Emissions from Natural Gas-Fired Reciprocating Engines, Combustion Turbines, Boilers, and Process Heaters Using Portable Analyzers, ASTM D6522, 2011**05**; AQD price ~~\$562.080~~/~~\$452.080~~ ASTM price.

(k) Standard Specification for Biodiesel Fuel Blend Stock (B100) for Middle Distillate Fuels, ASTM D6751, 2012**5**; AQD price ~~\$524.00~~/~~\$424.00~~ ASTM price.

(l) Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (**Ontario Hydro Method**), ASTM D6784, 2008**2**; AQD price ~~\$5870.00~~/~~\$4860.00~~ ASTM price.

~~(m) Standard Guide for Packaging and Shipping Environmental Sample for Laboratory Analysis, ASTM D6911, 2010; AQD price \$52.00/\$42.00 ASTM price.~~

~~(nm) Standard Test Method for Distillation of Emulsified Asphalt, ASTM D6997, 2012; AQD price \$479.00/\$379.00 ASTM price.~~

(~~en~~) Standard Specification for Diesel Fuel Oil, Biodiesel Blend (B6 to B20), ASTM D7467, 2013~~5~~; AQD price ~~\$5874.00~~/~~\$4864.00~~ ASTM price.

(~~po~~) Standard Practices for General Techniques of Infrared Quantitative Analysis, ASTM E168, 2006; AQD price ~~\$5870.00~~/~~\$4860.00~~ ASTM price.

(~~qp~~) Standard Practices for General Techniques of Ultraviolet-Visible Quantitative Analysis, ASTM E169, 2009~~14~~; AQD price ~~\$584.00~~/~~\$484.00~~ ASTM price.

(~~fq~~) Standard Practice for Packed Column Gas Chromatography, ASTM E260, 2011; AQD price ~~\$5860.00~~/~~\$4850.00~~ ASTM price.

(5) The following standards are adopted by reference in these rules. Copies are available for inspection and purchase at the Air Quality Division, Department of Environmental Quality, 525 West Allegan Street, Lansing, Michigan 48909-7760, at the cost as of the time of adoption of these rules (AQD price). Copies may also be obtained from the American Association of State Highway and Transportation Officials, AASHTO Publication Order Department, P.O. Box 933538, Atlanta, Georgia, 31193-3538, **or from their website <http://www.techstreet.com/products>**, at a cost as of the time of adoption of these rules (AASHTO price):

(a) Standard Method of Test for ~~Testing~~Emulsified Asphalts, AASHTO T59, 2013; AQD price \$86.00/\$76.00 AASHTO price.

(b) Standard Method of Test for Cutback Asphalt Products, AASHTO T78, 2014~~05~~; AQD price ~~\$7060.00~~/~~\$6050.00~~ AASHTO price.

(6) “~~2014~~–TLVs and BEIs. Threshold Limit Values for Chemical Substances and Physical Agents, and Biological Exposure Indices,” **2014** is adopted by reference in these rules. A copy is available for inspection and purchase at the Air Quality Division, Department of Environmental Quality, 525 West Allegan Street, Lansing, MI 48909-7760, at a cost as of the time of adoption of these rules of \$69.95. A copy may also be obtained from the American Conference of Governmental Industrial Hygienists, 1330 Kemper Meadow Drive, Cincinnati, Ohio 45240, or on the American Conference of Governmental Industrial website, [www.acgih.org](http://www.acgih.org), at a cost as of the time of adoption of these rules of \$49.95.

(7) “NIOSH Pocket Guide to Chemical Hazards,” 2010, is adopted by reference in these rules. A copy on CD-ROM is available for inspection and purchase at the Air Quality Division, Department of Environmental Quality, 525 West Allegan Street, Lansing, MI 48909-7760, for \$20.00 as of the time of adoption of these rules. A copy on CD-ROM may also be obtained from the Centers for Disease Control website, [www.cdc.gov/niosh/npg/](http://www.cdc.gov/niosh/npg/), for free as of the time of adoption of these rules.

(8) “American Petroleum Institute Manual of Petroleum Measurement Standards **Chapter 19. S2**,” 1997, is adopted by reference in these rules. A copy is available for inspection and purchase at the Air Quality Division, Department of Environmental Quality, 525 West Allegan Street, Lansing, MI 48909-7760, at a cost as of the time of adoption of these rules of \$139.00. A copy may also be obtained from American Petroleum Institute, Techstreet, 3916 Rancho Drive, Ann Arbor, MI 48108-2775, or at the American Petroleum Institute website at <http://www.techstreet.com/api/products/2409>, at a cost as of the time of adoption of these rules of \$129.00.

(9) “OTC Model Rule for Consumer Products,” 2009~~6~~ is adopted by reference in these rules. A copy is available for inspection and purchase at the Air Quality Division, Department of Environmental Quality, 525 West Allegan Street, Lansing, MI 48909-7760, at a cost as of the time of adoption of these rules of \$10.00. A copy may also be obtained from the Ozone

Transport Commission website, [www.otcair.org](http://www.otcair.org), for free as of the time of adoption of these rules.

**R 336.1916 Affirmative defense for excess emissions during start-up or shutdown for violations of R 336.1224 to R 336.1228 and R 336.1901.**

Rule 916. (1) The person operating a source with emissions in excess of an applicable emission limitation due to start-up or shutdown may claim an affirmative defense to an enforcement proceeding **for violations of R 336.1224 to R 336.1228 and R 336.1901**, excluding a judicial action seeking injunctive relief, if the person has complied with the reporting requirements of R 336.1912 and has demonstrated all of the following:

(a) The periods of excess emissions that occurred during start-up or shutdown were short and infrequent and could not have been prevented through careful planning and design.

(b) The excess emissions that occurred during start-up or shutdown were not part of a recurring pattern indicative of inadequate design, operation, or maintenance.

(c) The excess emissions caused by a bypass (an intentional diversion of control equipment) were unavoidable to prevent loss of life, personal injury, or severe property damage.

(d) The facility was operated at all times in a manner consistent with good practice for minimizing emissions.

(e) The frequency and duration of operating in start-up or shutdown mode were minimized to the maximum extent practicable.

(f) All reasonably possible steps were taken to minimize the impact of the excess emissions on ambient air quality.

(g) All emission monitoring systems were kept in operation if at all possible.

(h) The actions during the period of excess emissions were documented by contemporaneous operating logs or other relevant evidence as provided by R 336.1912.

(i) Excess emissions presenting an imminent threat to human health, safety, or the environment were reported to the department as soon as possible.

(j) Unless otherwise specified in the facility's permit, other excess emissions were reported as provided in R 336.1912. If requested by the department, a person shall submit a full written report that includes the known causes, the corrective actions taken, and the preventive measures to be taken to minimize or eliminate the chance of recurrence.

(k) Any information submitted to the department under this subrule shall be properly certified in accordance with the provisions of R 336.1912.

(2) This affirmative defense does not apply when a single emission unit, or multiple emission units at a stationary source, causes an exceedance of the national ambient air quality standards or any applicable prevention of significant deterioration increment.

(3) If the proximate cause of the excess emissions which occurred during routine start-up or shutdown periods was due to a malfunction, then, absent any intervening acts or superseding causes, the instances shall be treated as malfunctions in accordance with R 336.1915.

(4) Nothing in this rule shall be construed to limit the authority of the department to seek injunctive relief or to enforce the provisions of the act and the regulations promulgated under the act.

**R 336.1930 Emission of carbon monoxide from ferrous cupola operations.**

Rule 930. (1) It is unlawful for a person to operate a ferrous cupola that has a melting capacity of 20 or more tons per hour located within any area listed in Table 91, unless the ferrous cupola is equipped with an afterburner control system, or equivalent, which reduces the carbon monoxide emissions from the ferrous cupola by 90%.

(2) The emission rate of carbon monoxide from a ferrous cupola shall be determined by using **40 C.F.R. Part 60, Appendix A**, reference test method 10, **adopted by reference in R 336.1902**, unless otherwise specified by the department.

TABLE 91  
Areas Subject to R 336.1930

County	Area
Wayne	T01S, R09E to R12E T02S, R09E to R11E T03S, R09E to R10E

**R 336.1973 Standards for large municipal waste combustors.**

**Rule 973 (1)** Except as provided for in subrule (2) of this rule, each municipal waste combustor, defined under “Emissions Guidelines and Compliance Times for Large Municipal Waste Combustors That are Constructed on or Before September 20, 1994,” **40 C.F.R. §60.32b**, adopted by reference in **R 336.1902**, that has a combustion capacity greater than 250 tons per day of municipal solid waste and for which construction was commenced on or before September 20, 1994 is subject to this rule.

(2) Municipal waste combustors defined under **40 C.F.R. 62.14102(c), (e) to (j), (m), and (n)** adopted by reference in **R 336.1902**, are exempt from this rule if the owner or operator of the combustor notifies the department that the combustor qualifies for the exemption and complies with any listed requirements.

(3) A municipal solid waste combustor remains subject to this rule if any physical or operational changes are made primarily for the purpose of complying with this rule. Those changes cannot be considered in determining modification or reconstruction under **40 C.F.R. Part 60, subpart Ea or Eb**.

(4) Air curtain incinerators defined under **40 C.F.R. §60.32b(j)**, adopted by reference in **R 336.1902**, are exempt from all provisions of this rule except the following three sections of “Standards of Performance for Large Municipal Waste Combustors for Which Construction is Commenced After September 20, 1994 or for Which Modification or Reconstruction is Commenced After June 19, 1996,” **40 C.F.R. Part 60, Subpart Eb**, adopted by reference in **R 336.1902**:

(a) Emission limits for opacity under “Standards for air curtain incinerators,” **40 C.F.R. §60.56b**.

(b) “Compliance and performance testing,” **40 C.F.R. §60.58b**; however, combustors that achieve a dioxin/furan emission level less than or equal to 15 nanograms per dry cubic meter total mass, corrected to 7 percent oxygen, may use the alternative performance testing schedule for dioxins/furans specified in **40 C.F.R. §60.58b(g)(5)(iii)**.

(c) “Reporting and recordkeeping requirements,” **40 C.F.R. §60.59b**, except §§**60.59b(a), (b)(5), and (d)(11)**.

**(5) Owners and operators of municipal solid waste combustors subject to this rule must comply with the following emission limits under 40 C.F.R. Part 60, Subpart Eb, and “Federal Plan Requirements for Large Municipal Waste Combustors Constructed on or Before September 20, 1994,” 40 C.F.R. Part 62, Subpart FFF, adopted by reference in R 336.1902:**

**(a) Metal, acid gases, organics, and nitrogen oxide emission limits in 40 C.F.R. §62.14103.**

**(b) Tables 2-5, Subpart FFF.**

**(c) “Standards for municipal waste combustor fugitive ash emissions,” 40 C.F.R. §60.55b.**

**(6) Owners and operators of municipal solid waste combustors subject to this rule must comply with the following sections of 40 CFR Part 60, Subparts Cb and Eb:**

**(a) “Definitions,” 40 C.F.R. §60.31b and §60.51b.**

**(b) “Standards for municipal waste combustor operating practices,” 40 C.F.R. §60.53b(b) and (c).**

**(c) “Standards for municipal waste combustor operator training and certification,” 40 C.F.R. §60.54b.**

**(d) “Compliance and performance testing,” 40 C.F.R. §60.58b(b) to (q); however, combustors that achieve a dioxin/furan emission level less than or equal to 15 nanograms per dry cubic meter total mass, corrected to 7 percent oxygen, may use the alternative performance testing schedule for dioxins/furans specified in 40 C.F.R. §60.58b(g)(5)(iii).**

**(e) “Reporting and recordkeeping requirements,” 40 C.F.R. §60.59b, except §§60.59b(a), (b)(5), and (d)(11).**

**(7) For the purposes of this rule, the terms “administrator” and “EPA” as used in 40 C.F.R. Part 60, Subparts Cb and Eb, and in 40 C.F.R. Part 62, Subpart FFF means the department, except in the authorities retained by the U.S. EPA in 40 C.F.R. §60.30b(b).**

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**NOTICE OF PUBLIC HEARING**

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MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY  
Air Quality Division  
**NOTICE OF PUBLIC HEARING**

The Michigan Department of Environmental Quality (MDEQ), Air Quality Division (AQD), will conduct a comment period and public hearing on proposed administrative rules promulgated pursuant to

Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA). The rules are identified as R 336.1902, R 336.1916, R 336.1930 and R 336.1973. The comment period and hearing will address requirements contained in the state administrative rules and revisions to Michigan's State Implementation Plan (SIP) under the federal Clean Air Act. The purpose of these revisions is to update material adopted by reference in R 336.1902, to update R 336.1916 to comply with a United States Environmental Protection Agency SIP Call, to update R 336.1930 to correct a citation to a test method, and to add R 336.1793 as a new rule for large municipal waste combustors.

The public hearing will be held on May 2, 2016, at 1:30 p.m., in the William Ford Conference Room, Constitution Hall, 525 West Allegan Street, 2<sup>nd</sup> Floor, South Tower, Lansing, Michigan. If there are no participants or if all those who are present have been afforded the opportunity to speak, the hearing will close at 2:30 p.m.

Copies of the proposed rules (ORR 2015-079 EQ) can be downloaded from the Internet through the Office of Regulatory Reinvention at <http://www.michigan.gov/orr>. Copies of the rules may also be obtained by contacting:

MDEQ, AQD  
P.O. Box 30260 Lansing, Michigan 48909-7760  
Phone: 517-284-6740 Fax: 517-241-7499 E-Mail: [debrulerc@michigan.gov](mailto:debrulerc@michigan.gov)

All interested persons are invited to attend and present his or her views. It is requested that all statements be submitted in writing for the hearing record. Anyone unable to attend may submit comments in writing to the address above. Written comments must be received by May 2, 2016.

Persons needing accommodations for effective participation in the meeting should contact the AQD at 517-284-6740 one week in advance to request mobility, visual, hearing, or other assistance.

This notice of public hearing is given in accordance with Sections 41 and 42 of Michigan's Administrative Procedures Act, 1969 PA 306, Michigan Compiled Laws (MCL) 24.241 and 24.242, and federal regulations for the SIP. Promulgation of the rules is by authority conferred on the Director of the MDEQ by Section 5512 of the NREPA, MCL 324.5512. These rules will become effective immediately after filing with the Secretary of State.

Lynn Fiedler, Chief  
Air Quality Division

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**CORRECTION OF OBVIOUS  
ERRORS IN PUBLICATION**

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*MCL 24.256(1) states in part:*

*“Sec. 56. (1) The Office of Regulatory Reform shall perform the editorial work for the Michigan register and the Michigan Administrative Code and its annual supplement. The classification, arrangement, numbering, and indexing of rules shall be under the ownership and control of the Office of Regulatory Reform, shall be uniform, and shall conform as nearly as practicable to the classification, arrangement, numbering, and indexing of the compiled laws. The Office of Regulatory Reform may correct in the publications obvious errors in rules when requested by the promulgating agency to do so...”*

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**CORRECTION OF OBVIOUS  
ERRORS IN PUBLICATION**

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March 22, 2016

Ms. Deidre O’Berry  
Office of Regulatory Reinvention  
Department of Licensing and Regulatory Affairs  
Ottawa Building - 611 West Ottawa Street  
Lansing, Michigan 48933

Dear Ms. O’Berry:

SUBJECT: Request for Correction of the Michigan Administrative Code:  
R 325.52601 to R 325.52602  
Occupational Health Standard Part 526 Dipping and Coating Operations

The Department of Licensing and Regulatory Affairs (LARA), as the promulgating agency, is writing to request that the Office of Regulatory Reinvention exercise its discretion to correct an obvious error in the Michigan Administrative Code (MAC), pursuant to Section 56(1), MCL 24.256, of the Administrative Procedures Act, 1969 PA 306, as amended.

The corrected language is yellow highlighted and needs to be corrected in the administrative rule:

R 325.52601 Adoption of federal standards.

Rule 1. (1)(d) 29 C.F.R. §1910.125 “Additional requirements for dipping and coating operations that use flammable liquids or liquids with flashpoints greater than 199.4 °F (93 °C),” effective March 26, 2012.

R 325.52602 Availability of adopted and referenced rules.

Rule 2. (1)(d) 29 C.F.R. §1910.125 “Additional requirements for dipping and coating operations that use flammable liquids or liquids with flashpoints greater than 199.4 °F (93 °C),” effective March 26, 2012.

R 325.52602 Availability of adopted and referenced rules.

(3) The standards adopted by reference in these rules are also available for inspection at the Department of Licensing and Regulatory Affairs, MIOSHA Regulatory Section, 530 West Allegan Street, Lansing, Michigan, 48909-8143.

(4) The standards adopted by reference in these rules may be obtained from the publisher or may also be obtained from the Department of Licensing and Regulatory Affairs, MIOSHA Regulatory Section, 530 West Allegan Street, 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 administrative 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** Section, 530 West Allegan Street, P.O. Box 30643, Lansing, Michigan, 48909-8143; or via the internet at website: [www.michigan.gov/mioshastandards](http://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.

The incorrect language is struck-through and yellow highlighted and needs to be removed from the following rules:

R 325.52601 Adoption of federal standards.

(4) As of the effective date of these rules, §1910.146, referenced in 29 C.F.R. §1910.124(e), means Occupational Health Standard **OH** Part 490 “Permit-Required Confined Spaces,” as referenced in R 325.52602.

R 325.52602 Availability of adopted and referenced rules.

(4) The standards adopted by reference in these rules may be obtained from the publisher or may **also** be obtained from the Department of Licensing and Regulatory Affairs, MIOSHA Regulatory Section, 530 West Allegan Street, P.O. Box 30643, Lansing, Michigan, 48909-8143, at the cost charged in this rule, plus \$20.00 for shipping and handling.

Please note the corrections as you deem appropriate.

If you have any questions, please contact me anytime.

Respectfully submitted,

**Dena Hendon**

Dena Hendon  
Michigan Occupational Safety and Health Administration  
MIOSHA Standards Analyst  
517.284.7736

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**EXECUTIVE ORDERS  
AND  
EXECUTIVE REORGANIZATION ORDERS**

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*MCL 24.208 states in part:*

*“Sec. 8. (1) The Office of Regulatory Reform shall publish the Michigan register at least once each month. The Michigan register shall contain all of the following:*

*(a) Executive orders and executive reorganization orders.”*

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**EXECUTIVE ORDERS**

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**EXECUTIVE ORDER**

**No. 2016 - 6**

**CREATION OF THE  
GOVERNOR'S 21ST CENTURY EDUCATION COMMISSION**

**EXECUTIVE OFFICE OF THE GOVERNOR**

WHEREAS, Section 1 of Article V of the Michigan Constitution of 1963 vests the executive power of the state of Michigan in the Governor; and

WHEREAS, Section 4 of Article V of the Michigan Constitution of 1963 authorizes the establishment of temporary commissions or agencies for special purposes; and

WHEREAS, under Section 1 of 1931 PA 195, being MCL 10.51, the Governor may, at such times and for such purposes as the Governor deems necessary or advisable, create special advisory bodies consisting of as many members as the Governor deems appropriate; and

WHEREAS, Section 17 of Article V of the Michigan Constitution of 1963 empowers the Governor to present to the Legislature information as to the affairs of the state and recommend measures that he considers necessary or desirable; and

WHEREAS, an educated and knowledgeable population is critical to Michigan's economic and civic vitality and its quality of life; and

WHEREAS, a skilled, credentialed workforce capable of sustained success in a global, knowledge-based economy is a necessary outcome of a state's system of education; and

WHEREAS, Michigan's current system of local, regional, and state education entities is over five decades old and was designed primarily to produce a mid-skilled workforce for a manufacturing economy; and

WHEREAS, Michigan's current system of funding education hasn't been modified in over twenty years and there have been significant changes in the state's population and economy since that time; and

WHEREAS, Michigan falls below the national average in critical measures of educational attainment including the number of individuals with college degrees or work-valued credentials; and

WHEREAS, the current system of education is producing significantly disparate achievement results for minority and economically disadvantaged students and a growing number of students seeking postsecondary credentials require costly remedial coursework in order to continue; and

WHEREAS, Michigan cannot hope to maintain its economic vitality and quality of life without making dramatic gains in the academic achievement and career preparedness of all its residents; and

WHEREAS, the people of Michigan have historically supported and invested in a system of public education to open the doors of educational opportunity and employment to all; and

WHEREAS, we must act now to ensure our system of education, its structure, governance, funding, and accountability, is focused on student achievement and success for the good of all residents and the vitality of the state;

NOW, THEREFORE, I, Richard D. Snyder, Governor of the state of Michigan, by virtue of the power and authority vested in the Governor by the Michigan Constitution of 1963 and Michigan law, order the following:

**I. CREATION OF THE 21ST CENTURY EDUCATION COMMISSION**

A. The Governor’s 21<sup>st</sup> Century Education Commission (the “Commission”) is created as a temporary commission pursuant to Article V, Section 4, of the Constitution of the state of Michigan of 1963 and shall serve as an advisory body within the Executive Office of the Governor.

B. The Commission shall be an independent and autonomous entity with the intent that its authority, powers, duties, and responsibilities be exercised free from the direction and supervision of the principal departments in the executive branch and shall be composed of twenty-five (25) members appointed as follows:

1. The Governor shall appoint sixteen (16) voting members to the Commission serving at the pleasure of the Governor.

2. The following five (5) voting members:

- One (1) member appointed by the Speaker of the House;
- One (1) member appointed by the House Minority Leader;
- One (1) member appointed by the Senate Majority Leader;
- One (1) member appointed by the Senate Minority Leader; and
- The President of the State Board of Education or his/her designee.

3. The following four (4) department heads or their designees from within their respective departments or agencies who shall be non-voting, ex officio members:

- The Superintendent of Public Instruction;
- The State Treasurer;
- The Director of the State Budget Office; and
- The Director of the Talent Investment Agency.

C. A vacancy on the Commission shall be filled in the same manner as the original appointment.

D. The Commission shall include individuals representing the education, business, government, and nonprofit communities who have a particular interest or expertise in education. Specifically, Commission members will need to possess expertise in education system design at the state, regional, and local levels including how Michigan’s system of public education providers are organized, governed, funded, and held accountable for successful education outcomes, Pre-K through credential/career attainment, and/or have knowledge of factors that both inhibit and enable that success.

## **II. CHARGE TO THE COMMISSION**

A. The Commission shall act in an advisory capacity to the Governor and the state of Michigan, and shall do all of the following:

1. Analyze top performing states and nations to determine how their systems of education (structure, governance, funding, and accountability) have led to academic and career success for students pre-school through career credentialing/post-secondary education.

2. Determine, for top performing states and nations, the similarities and differences between their demographic, cultural and economic realities and Michigan's demographic, cultural, and economic realities.

3. Based on this analysis of top performing states and nations, identify the structural (configuration of schools,) governance, funding, and accountability enablers and inhibitors impacting the academic success and career preparedness for Michigan students and residents, including distinct demographic and geographic variances as appropriate.

4. Recommend changes to restructure, as necessary, the configuration, governance, funding, and accountability of Michigan's education system to significantly improve student achievement and career preparedness, and ensure the high quality of all education options available to parents and students.

5. Prioritize the Commission's recommendations for implementation.

B. Provide other information or advice as directed by the Governor.

C. No later than November 30, 2016, shall complete its work and issue a final report to the Governor for his consideration.

D. A copy of the final report shall be transmitted to the Legislature and State Board of Education.

E. Ninety days (90) after issuance and transference of its final report, the Commission shall be deemed to have met the charges placed upon it by this Executive Order and shall cease operations.

## **III. OPERATIONS OF THE COMMISSION**

A. The Commission shall be staffed by personnel from and assisted by state departments and agencies as directed by the Governor's Office.

B. The Governor shall designate the Chairperson or Chairpersons of the Commission who shall serve as the Chair at the pleasure of the Governor.

- C. The Commission may select from among its members a Vice Chairperson.
- D. The Commission shall meet at the call of the Chairperson and as may be provided in procedures adopted by the Commission. Meetings of the Commission may be held anywhere within the state of Michigan.
- E. The Commission may establish workgroups or committees assigning Commission members to and inviting public participation on these workgroups or committees as the Commission deems necessary.
- F. The Commission may adopt, reject, or modify recommendations made by the workgroups or committees.
- G. A majority of the voting members of the Commission serving constitutes a quorum for the transaction of the Commission's business, notwithstanding the existence of one (1) or more vacancies. The Commission shall act by majority vote of its present and voting members.
- H. The Commission shall adopt procedures consistent with Michigan law and this Order governing its organization and operations.
- I. The Commission may, as appropriate, make inquiries, studies, investigations, hold hearings, and receive comments from the public. Subject to the Governor's approval, the Commission may consult with outside experts in order to perform its duties, including, but not limited to, experts in the private sector, government agencies, and the nonprofit sector.
- J. Members of the Commission shall serve without compensation. Subject to the Governor's approval and available funding, members of the Commission may receive reimbursement for necessary travel and expenses according to relevant statutes and the rules and procedures of the Michigan Civil Service Commission and the Department of Technology, Management and Budget.
- K. Subject to the Governor's approval, the Commission may hire or retain contractors, sub-contractors, advisors, consultants, and agents, and may make and enter into contracts necessary or incidental to the exercise of the powers of the Commission and the performance of its duties, as the Governor deems advisable and necessary in accordance with the relevant statutes, rules, and procedures of the Civil Service Commission and the Department of Technology, Management and Budget.
- L. The Commission may accept grants of funds, donations of funds, property, labor, services, or other things of value from any public or private agency or person. Any donations shall be expended in accordance with applicable laws, rules, and procedures.
- M. Members of the Commission, staff, or contractors shall refer all legal, legislative, and media contacts relating to Commission actions or activities to the Office of the Governor.

**IV. MISCELLANEOUS**

A. All departments, committees, commissioners, or officers of this state or of any political subdivision of this state shall give to the Commission, or to any member or representative of the Commission, any necessary assistance required by the Commission, or any member or representative of the Commission, in the performance of the duties of the Commission so far as is compatible with its, his, or her duties..

B. Nothing in this Executive Order shall be construed to diminish the constitutional authority of the State Board of Education pursuant to Section 3 of Article VIII of the Michigan Constitution of 1963, to provide leadership and general supervision over all public education, including adult education and instructional programs in state institutions, except as to institutions of higher education granting baccalaureate degrees; to serve as the general planning and coordinating body for all public education, including higher education; and to advise the Legislature as to the financial requirements in connection therewith.

C. Any suit, action, or other proceeding lawfully commenced by, against, or before any entity affected under this Order shall not abate by reason of the taking effect of this Order.

D. Nothing in this Order shall be construed to change the organization of the executive branch of state government or the assignment of functions among its units in a manner requiring the force of law.

E. The invalidity of any portion of this Order shall not affect the validity of the remainder the Order.

This Executive Order shall become effective upon filing.

Given under my hand and the Great Seal of the state of Michigan this \_\_\_\_\_ day of March, in the Year of our Lord Two Thousand Sixteen.

---

RICHARD D. SNYDER  
GOVERNOR

BY THE GOVERNOR:

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SECRETARY OF STATE

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**(2016 SESSION)**

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*MCL 24.208 states in part:*

*“Sec. 8. (1) The Office of Regulatory Reform shall publish the Michigan register at least once each month. The Michigan register shall contain all of the following:*

\*       \*       \*

*(i) Other official information considered necessary or appropriate by the Office of Regulatory Reform.”*

*The following table cites administrative rules promulgated during the year 2000, and indicates the effect of these rules on the Michigan Administrative Code (1979 ed.).*

**MICHIGAN ADMINISTRATIVE CODE TABLE  
(2015 RULE FILINGS)**

R Number	Action	2016 MR Issue	R Number	Action	2016 MR Issue	R Number	Action	2016 MR Issue
125.651	R	4	338.619	*	6	400.5011	R	3
125.652	R	4	338.621	*	6	400.5013	R	3
125.653	R	4	338.623	*	6	400.5014	R	3
125.654	R	4	338.602	A	6	400.5016	R	3
281.700.3	*	4	338.604	A	6	400.5017	R	3
325.1	*	2	338.627	A	6	400.5018	R	3
325.2	*	2	338.629	A	6	408.10702	A	5
325.3	*	2	338.641	A	6	408.10711	*	5
325.4	*	2	338.645	a	6	408.10712	*	5
325.2581	R	3	338.647	A	6	408.10713	*	5
325.2583	R	3	338.649	A	6	408.10727	*	5
325.2584	R	3	338.609	R	6	408.10753	*	5
325.2586	R	3	338.625	R	6	408.18502	*	5
325.2587	R	3	338.1751a	A	6	408.18599	*	5
325.2588	R	3	338.2201a	A	6	408.14016e	R	6
325.2589	R	3	338.3651	A	6	408.14017a	R	6
325.2590	R	3	338.3653	A	6	408.14018a	R	6
325.2591	R	3	338.3655	A	6	408.14019a	R	6
325.52001	*	6	338.3657	A	6	408.14019b	R	6
325.52002	*	6	338.3659	A	6	408.14019c	R	6
325.52003	*	6	338.3661	A	6	408.14020a	R	6
325.52005	*	6	338.3663	A	6	408.14021a	R	6
325.52008	*	6	338.3665	A	6	408.14021b	R	6
325.52011	*	6	338.3901a	A	6	408.14022a	R	6
325.50251	*	5	338.4971	*	6	408.14023a	R	6
325.50252	*	5	338.4972	*	6	408.14024a	R	6
325.50253	*	5	338.4973	*	6	408.14025a	R	6
325.50254	*	5	338.4976	*	6	408.14025b	R	6
325.50255	*	5	338.4978	*	6	408.14026a	R	6
325.50256	*	5	338.4982	*	6	408.14027a	R	6
325.50257	*	5	338.12001a	A	6	408.14028a	R	6
325.50258	*	5	339.14002	A	6	408.14029a	R	6
325.52601	*	5	400.5001	R	3	408.14030a	R	6
325.52602	*	5	400.5002	R	3	408.14031a	R	6
338.601	*	6	400.5004	R	3	408.14032a	R	6
338.607	*	6	400.5005	R	3	408.14033a	R	6
338.611	*	6	400.5006	R	3	408.14034a	R	6
338.613	*	6	400.5008	R	3	408.14041a	R	6
338.617	*	6	400.5009	R	3	408.41003a	*	6

(\* Amendment to Rule, **A** Added Rule, **N** New Rule, **R** Rescinded Rule)

2016 MR 6 – April 15, 2016

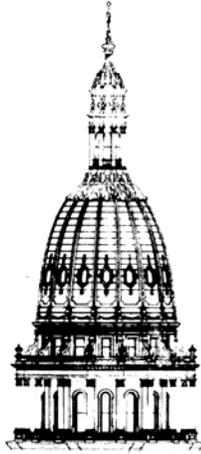
R Number	Action	2016 MR Issue	R Number	Action	2016 MR Issue	R Number	Action	2016 MR Issue
408.41006a	*	6	408.41052	A	6	408.41061g	A	6
408.41001	A	6	408.41052a	A	6	408.41062	A	6
408.41003	A	6	408.41052b	A	6	408.41063	A	6
408.41003b	A	6	408.41053	A	6	408.41064	A	6
408.41003c	A	6	408.41053a	A	6	408.41065a	R	6
408.41003d	A	6	408.41053b	A	6	408.41066a	R	6
408.41003e	A	6	408.41053c	A	6	408.41067a	R	6
408.41006	A	6	408.41053d	*	6	408.41068a	R	6
408.41006b	A	6	408.41053e	*	6	408.41069a	R	6
408.41006c	A	6	408.41053f	A	6	408.41070a	R	6
408.41006d	A	6	408.41053g	A	6	408.41070b	R	6
408.41006e	A	6	408.41054	A	6	408.41071a	R	6
408.41007	A	6	408.41055	A	6	408.41072a	R	6
408.41035	A	6	408.41055a	A	6	408.41073a	R	6
408.41035a	A	6	408.41055b	A	6	408.41074a	R	6
408.41035b	A	6	408.41055c	A	6	408.41075a	R	6
408.41035c	A	6	408.41056	A	6	408.41080	A	6
408.41035d	A	6	408.41056a	A	6	408.41080a	A	6
408.41036	A	6	408.41056b	A	6	408.41080b	A	6
408.41036a	A	6	408.41056c	A	6	408.41080c	A	6
408.41036b	A	6	408.41056d	A	6	408.41080d	A	6
408.41036c	A	6	408.41056e	A	6	408.41080e	A	6
408.41036d	A	6	408.41056f	A	6	408.41080f	A	6
408.41037	A	6	408.41056g	A	6	408.41080g	A	6
408.41037a	A	6	408.41056h	A	6	408.41080h	A	6
408.41037b	A	6	408.41056i	A	6	408.41080i	A	6
408.41037c	A	6	408.41057	A	6	408.41080j	*	6
408.41037d	A	6	408.41058	A	6	408.41080k	*	6
408.41037e	A	6	408.41060	A	6	408.41080l	A	6
408.41037f	A	6	408.41060a	A	6	408.41080m	A	6
408.41038	A	6	408.41060b	A	6	408.41080n	A	6
408.41038a	A	6	408.41060c	A	6	408.41080o	A	6
408.41038b	A	6	408.41061	A	6	408.41081	A	6
408.41038c	A	6	408.41061a	A	6	408.41082	A	6
408.41039	A	6	408.41061b	A	6	408.41082a	A	6
408.41039a	A	6	408.41061c	A	6	408.41082b	A	6
408.41039b	A	6	408.41061d	A	6	408.41082c	A	6
408.41040	A	6	408.41061e	A	6	408.41082d	A	6
408.41051a	R	6	408.41061f	A	6	408.41082e	A	6

(\* Amendment to Rule, **A** Added Rule, **N** New Rule, **R** Rescinded Rule)

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R Number	Action	2016 MR Issue	R Number	Action	2016 MR Issue	R Number	Action	2016 MR Issue
408.41082f	A	6	408.41008a	R	6	408.41564	A	6
408.41082g	A	6	408.41009a	R	6	408.41570	A	6
408.41083	A	6	408.41009b	R	6	408.41580	A	6
408.41084	A	6	408.41011a	R	6	408.41590	A	6
408.41084a	A	6	408.41011b	R	6	408.41595	A	6
408.41084b	A	6	408.41011c	R	6	408.41605	*	4
408.41084c	A	6	408.41011d	R	6	408.41610	*	4
408.41084d	A	6	408.41011e	R	6	436.1311	R	4
408.41084e	A	6	408.41012a	R	6	792.10101	*	5
408.41084f	A	6	408.41013a	R	6	792.11501	*	5
408.41085	A	6	408.41014a	R	6	792.11503	R	5
408.41085a	A	6	408.41015a	R	6	792.11504	R	5
408.41085b	A	6	408.41016a	R	6	792.11505	R	5
408.41085c	A	6	408.41016b	R	6	792.11506	R	5
408.41085d	A	6	408.41016c	R	6	792.11507	R	5
408.41085e	A	6	408.41016d	R	6	792.11508	R	5
408.41085f	A	6	408.41501	A	6	792.11509	R	5
408.41085g	A	6	408.41505	A	6	792.1151	R	5
408.41085h	A	6	408.41510	A	6	792.11511	R	5
408.41086	A	6	408.41515	A	6	792.11512	R	5
408.41086a	A	6	408.41520	A	6	792.11513	R	5
408.41086b	A	6	408.41521	A	6	792.11514	R	5
408.41086c	A	6	408.41522	A	6	792.11515	R	5
408.41086d	A	6	408.41523	A	6	792.11516	R	5
408.41086e	A	6	408.41524	A	6	792.11517	R	5
408.41086f	A	6	408.41525	A	6			
408.41086g	A	6	408.41526	A	6			
408.41087	A	6	408.41527	A	6			
408.41088	A	6	408.41530	A	6			
408.41089	A	6	408.41531	A	6			
408.41090	A	6	408.41540	A	6			
408.41090a	A	6	408.41541	A	6			
408.41090b	A	6	408.41542	A	6			
408.41090c	*	6	408.41543	A	6			
408.41090d	*	6	408.41550	A	6			
408.41090e	A	6	408.41560	A	6			
408.41001a	R	6	408.41561	A	6			
408.41004a	R	6	408.41562	A	6			
408.41005a	R	6	408.41563	A	6			

(\* Amendment to Rule, **A** Added Rule, **N** New Rule, **R** Rescinded Rule)



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- Part 529 Welding, Cutting & Brazing Occupational Health Standard (2016-3)
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**NATURAL RESOURCES, DEPARTMENT OF**  
Special Local Watercraft Controls (2016-4\*)

**T**

**TALENT AND ECONOMIC GROWTH, DEPARTMENT OF**  
Urban Land Assembly Fund (2016-4\*)

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**ADMINISTRATIVE RULES  
ENROLLED SENATE AND HOUSE BILLS  
SIGNED INTO LAW OR VETOED  
(2015 SESSION)**

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*Mich. Const. Art. IV, §33 provides: “Every bill passed by the legislature shall be presented to the governor before it becomes law, and the governor shall have 14 days measured in hours and minutes from the time of presentation in which to consider it. If he approves, he shall within that time sign and file it with the secretary of state and it shall become law . . . If he does not approve, and the legislature has within that time finally adjourned the session at which the bill was passed, it shall not become law. If he disapproves . . . he shall return it within such 14-day period with his objections, to the house in which it originated.”*

*Mich. Const. Art. IV, §27, further provides: “No act shall take effect until the expiration of 90 days from the end of the session at which it was passed, but the legislature may give immediate effect to acts by a two-thirds vote of the members elected to and serving in each house.”*

*MCL 24.208 states in part:*

*“Sec. 8. (1) The Office of Regulatory Reform shall publish the Michigan register at least once each month. The Michigan register shall contain all of the following:*

\* \* \*

*(b) On a cumulative basis, the numbers and subject matter of the enrolled senate and house bills signed into law by the governor during the calendar year and the corresponding public act numbers.*

*(c) On a cumulative basis, the numbers and subject matter of the enrolled senate and house bills vetoed by the governor during the calendar year.”*

# 2016 Michigan Public Acts Table

Legislative Service Bureau  
Legal Division, Statutory Compiling and Law Publications Unit  
124 W. Allegan, Lansing, MI 48909

March 18, 2016  
Through PA 50 of 2016

PA No.	ENROLLED		I.E.* Yes/No	Governor Approved	Filed Date	Effective Date	SUBJECT
	HB	SB					
1	4983		Yes	1/26	1/26	4/25/16	<b>Natural resources; fishing;</b> entrance into state-operated public boating access sites and certain state parks on free fishing weekends; allow free of charge. <b>(Rep. B. Rendon)</b>
2	4604		Yes	1/26	1/26	2/25/16	<b>Natural resources; soil and erosion;</b> soil erosion and sedimentation permit process; provide exemption for certain agricultural practices. <b>(Rep. B. Roberts)</b>
3	5220		Yes	1/29	1/29	1/29/16	<b>Appropriations; supplemental;</b> distribution of certain appropriated revenue from the state general fund to department of health and human services; provide for. <b>(Rep. P. Phelps)</b>
4	4459		Yes	2/2	2/2	2/2/16	<b>Traffic control; driver license;</b> emergency contact information encoded in driver license; allow. <b>(Rep. P. Lucido)</b>
5	4460		Yes	2/2	2/2	2/2/16	<b>State; identification cards;</b> emergency contact information on state identification card; provide for. <b>(Rep. P. Lucido)</b>
6	4535		Yes	2/2	2/2	5/2/16	<b>Weapons; licensing;</b> requirement to obtain a license to purchase, carry, possess, use, or transport a pistol; exempt law enforcement officers. <b>(Rep. L. Theis)</b>
7		0232	Yes	2/2	2/2	2/2/16	<b>Use tax; definitions;</b> definition of auto dealer; modify. <b>(Sen. D. Robertson)</b>
8		0233	Yes	2/2	2/2	2/2/16	<b>Sales tax; definitions;</b> definition of auto dealer; modify. <b>(Sen. D. Robertson)</b>

- \* - I.E. means Legislature voted to give the Act immediate effect.
- \*\* - Act takes effect on the 91st day after sine die adjournment of the Legislature.
- \*\*\* - See Act for applicable effective date.
- + - Line item veto.
- ++ - Pocket veto.
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## 2016 Michigan Public Acts Table

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	HB	SB					
9		0539	Yes	2/16	2/16	2/16/16	<b>Higher education; financial aid;</b> promise zones; modify administration. <b>(Sen. G. Hansen)</b>
10		0540	Yes	2/16	2/16	2/16/16 #	<b>Property tax; state education tax;</b> distribution of state education tax; modify. <b>(Sen. J. Ananich)</b>
11	5023		Yes	2/16	2/16	5/16/16	<b>Natural resources; other;</b> dark sky preserves; expand locations. <b>(Rep. P. Pettalia)</b>
12		0328	Yes	2/16	2/16	5/16/16	<b>Law enforcement; state police;</b> grade and duties of state law enforcement officers; modify. <b>(Sen. T. Schuitmaker)</b>
13		0303	Yes	2/16	2/16	5/16/16	<b>Cemeteries and funerals; other;</b> investment of money in a perpetual care and maintenance fund; expand authority. <b>(Sen. M. Knollenberg)</b>
14		0394	Yes	2/16	2/16	5/16/16	<b>Housing; inspection;</b> multi-unit inspections; make discretionary unless complaint is received and include certain townships within scope of act. <b>(Sen. D. Robertson)</b>
15		0615	Yes	2/16	2/16	2/16/16	<b>Civil procedure; remedies;</b> judgments against municipalities that are collected as tax levies; prohibit transmission or capturing by other governmental entity. <b>(Sen. W. Schmidt)</b>
16	4455		Yes	2/23	2/23	5/23/16	<b>Highways; bridges;</b> bridge inspection process; modify. <b>(Rep. B. Glardon)</b>
17	5070		Yes	2/23	2/23	5/23/16	<b>Labor; health and safety;</b> franchisee and franchisor responsibility as employer under the Michigan occupational safety and health act; clarify. <b>(Rep. E. Leutheuser)</b>
18	5071		Yes	2/23	2/23	5/23/16	<b>Labor; hours and wages;</b> employer responsibility for employees; allocate between franchisor and franchisee. <b>(Rep. P. Somerville)</b>

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	HB	SB					
19	5072		Yes	2/23	2/23	5/23/16	<b>Labor; hours and wages</b> ; franchisor responsibility for minimum wage violations; clarify. <b>(Rep. N. Jenkins)</b>
20	5073		Yes	2/23	2/23	5/23/16	<b>Employment security; employers</b> ; franchisee and franchisor responsibility for contributions and benefits; clarify. <b>(Rep. D. Garcia)</b>
21		0513	Yes	2/23	2/23	2/23/16	<b>Highways; name</b> ; renaming a bridge on US-10; designate as the "Corpsman Aaron D. Ullom Memorial Bridge". <b>(Sen. J. Stamas)</b>
22	4853		Yes	2/23	2/23	5/23/16	<b>Vehicles; motorcycles</b> ; fee for motorcycle safety course; modify. <b>(Rep. J. Tedder)</b>
23	4854		Yes	2/23	2/23	5/23/16	<b>Vehicles; motorcycles</b> ; waiver of certain test requirements for individuals who complete a motorcycle safety course; provide for. <b>(Rep. J. Tedder)</b>
24		0136	Yes	2/26	2/26	2/26/16	<b>Appropriations; zero budget</b> ; supplemental appropriations; provide for fiscal year 2015-2016. <b>(Sen. D. Hildenbrand)</b>
25	4888		Yes	3/1	3/1	5/30/16	<b>Property tax; other</b> ; assessment roll; allow assessor to maintain electronically. <b>(Rep. H. Hughes)</b>
26		0503	Yes	3/1	3/1	5/30/16	<b>Children; adoption</b> ; Michigan Indian family preservation act (MIFPA); modify. <b>(Sen. J. Emmons)</b>
27	4758		Yes	3/1	3/1	3/1/16	<b>Drains; financing</b> ; term bonds with mandatory redemption; provide for. <b>(Rep. A. Pscholka)</b>
28	4727		Yes	3/1	3/1	5/30/16	<b>Aeronautics; other</b> ; regulations for tall structures; revise for meteorological towers. <b>(Rep. T. Cole)</b>

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	HB	SB					
29		0554	Yes	3/8	3/8	6/6/16	<b>Health; occupations;</b> use of electronic continuing education tracking services; allow. <b>(Sen. T. Schuitmaker)</b>
30		0555	Yes	3/8	3/8	6/6/16	<b>Occupations; individual licensing and regulation;</b> use of electronic continuing education tracking services; allow. <b>(Sen. T. Schuitmaker)</b>
31		0056	Yes	3/8	3/8	3/8/16	<b>Courts; judges;</b> salary formula for judges; modify. <b>(Sen. R. Jones)</b>
32		0176	Yes	3/8	3/8	6/6/16 #	<b>Crimes; intoxication or impairment;</b> oversight for ignition interlock servicing centers; provide for department of state. <b>(Sen. T. Schuitmaker)</b>
33		0357	Yes	3/8	3/8	6/6/16 #	<b>Occupations; vehicles, dealers and repair facilities;</b> breath alcohol ignition interlock mechanics and servicers; include in motor vehicle service and repair act. <b>(Sen. T. Schuitmaker)</b>
34	4980		Yes	3/8	3/8	6/6/16 #	<b>Criminal procedure; sentencing guidelines;</b> guidelines for crime of knowingly providing false information concerning an ignition interlock device; revise. <b>(Rep. K. Kesto)</b>
35		0334	Yes	3/8	3/8	3/8/16	<b>Children; protection;</b> reporting child abuse or child neglect through an online reporting system and waiving a written report under certain circumstances; allow, change venereal disease to sexually transmitted infection, and allow federal or state governmental agency access to certain records. <b>(Sen. J. Emmons)</b>
36		0588	Yes	3/8	3/8	6/6/16	<b>Natural resources; hunting;</b> certain tribal conservation officers; authorize to demand hunting, fishing, or fur harvester's licenses. <b>(Sen. T. Casperson)</b>
37		0680	Yes	3/8	3/8	3/8/16	<b>Mental health; other;</b> naming the new patient programming center at the Walter P. Reuther Psychiatric Hospital the "James K. Haveman Center for Activity, Rehabilitation, and Therapy"; provide for. <b>(Sen. P. MacGregor)</b>
38		0150	Yes	3/15	3/15	3/15/16	<b>Insurance; health insurers;</b> health plans that provide prescription drug coverage; clarify requirements for synchronizing multiple prescriptions and dispensing fees. <b>(Sen. M. O'Brien)</b>

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39		0051	Yes	3/15	3/15	6/13/16	<b>Highways; name</b> ; renaming a portion of highway in Genesee County; designate as "John Wayne "Dusty" Marcum Memorial Highway". <b>(Sen. K. Horn)</b>
40		0444	Yes	3/15	3/15	6/13/16	<b>Health; emergency services</b> ; critical incident stress management services for emergency service providers; provide for, prohibit disclosure of confidential communications, and provide immunity from liability. <b>(Sen. J. Stamas)</b>
41		0471	Yes	3/15	3/15	6/13/16	<b>Courts; district court</b> ; sixty-seventh district; clarify fourth division jurisdiction. <b>(Sen. D. Robertson)</b>
42		0472	Yes	3/15	3/15	6/13/16	<b>Taxation; tobacco</b> ; tobacco product manufacturers' escrow accounts act; modify. <b>(Sen. W. Schmidt)</b>
43		0473	Yes	3/15	3/15	6/13/16	<b>Tobacco; generally</b> ; tobacco products tax act; require certain enforcement disclosures. <b>(Sen. P. MacGregor)</b>
44		0578	Yes	3/15	3/15	6/13/16	<b>Consumer credit; predatory lending</b> ; mortgage borrowers' bill of rights; modify to refer to federal home loan publications. <b>(Sen. D. Booher)</b>
45		0644	Yes	3/15	3/15	3/15/16	<b>Businesses; nonprofit corporations</b> ; authorization to restructure municipal health facilities corporations; revise requirements. <b>(Sen. J. Stamas)</b>
46	4314		Yes	3/15	3/15	6/13/16	<b>Traffic control; violations</b> ; operation of a motor vehicle on property open to public in a manner that would be a moving violation if on public property causing death or serious impairment of a body function; prohibit, and provide penalties. <b>(Rep. S. Singh)</b>
47	4408		Yes	3/15	3/15	6/13/16 #	<b>Health occupations; veterinarians</b> ; veterinarian continuing education requirement; modify, and include veterinary technicians and a license cycle for veterinarian and veterinary technician licenses. <b>(Rep. K. Crawford)</b>
48	4458		Yes	3/15	3/15	6/13/16	<b>Transportation; other</b> ; complete streets advisory council; eliminate. <b>(Rep. J. Runestad)</b>

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49	4999		Yes	3/15	3/15	6/13/16 #	<b>Health; pharmaceuticals;</b> dispensing prescription drug or device requirements; expand to include an out-of-state veterinary prescriber, and amend certain other provisions relating to veterinary licensing. <b>(Rep. E. McBroom)</b>
50	5105		No	3/15	3/15	**	<b>Insurance; health insurers;</b> health insurance claims assessment on carriers and third party administrators; modify sunset. <b>(Rep. A. Pscholka)</b>

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