DEPARTMENT OF **LICENSING AND REGULATORY AFFAIRS** ~~CONSUMER AND INDUSTRY SERVICES~~

DIRECTOR'S OFFICE ~~BUREAU OF SAFETY AND REGUALTION~~

CONSTRUCTION SAFETY STANDARDS ~~COMMISSION~~

Filed with the Secretary of State on March 14, 2013

~~These rules take effect 7 days after filing with the Secretary of State~~

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, and Executive Reorganization Order Nos. 1996-2, 2003-1, 2008-4, and 2011-4, MCL 445.2001, 445,2011, 445.2025, and 445.2030)** ~~construction safety standards commission by sections 19 and 21 of Act No. 154 of the Pubic Acts of 1974, as amended, being SS408.1019 and 408.1021 of the Michigan Compiled Laws)~~

R 408.42031, R 408.42034, R 408.42041, R 408.42043, R 408.42045, R 408.42046, and R 408.42047 of the Michigan Administrative Code are amended as follows:

PART 20 DEMOLITION

R 408.42031 Demolition generally.

Rule 2031. (1) Before the start of a demolition operation, an employer shall ensure that all of the following are done:

(a) An engineering survey of the structure and equipment is conducted by a competent person knowledgeable in demolition to determine all of the following:

(i) The condition of the foundation, roof, walls, and floors.

(ii) Whether any adjacent structure will be affected by the demolition.

(iii) The utility service entering the building.

(iv) Any other conditions and equipment affecting the safety of an employee.

(b) An employer shall ensure that there is a written report of the survey at the field office until the completion of the job. The report shall include information such as the name of the person conducting the survey, date of the survey, and hazardous substances and dangerous conditions found and their location. In an emergency situation, a survey is not required. If a field office does not exist at the demolition site, then an employer shall file the written report of the survey at the employer's main office.

(c) An employer shall inform utility companies of the planned demolition. An employer shall ensure that utility services are shut off, capped, or otherwise protected from damage, except as specified in subrule (2) of this rule.

(d) An employer shall ensure that glazed sash and doors and other glass that might cause an injury shall be protected or removed before demolition starts.

(2) ~~During demolition, an existing standpipe system shall remain in service as long as possible, and any sprinkler or standpipe system in a portion of a structure that is not subject to demolition shall remain in service.~~

~~(3)~~ If an employee is required to work in a structure that has been damaged by fire, flood, or explosion, then an employer shall ensure that the affected walls and floors are shored or braced before manual demolition starts.

(3)~~(4)~~ If an area or item, such as a pipe, tank, or bin, is known or suspected to contain a hazardous substance, then an employer shall ensure that testing is performed and the hazard eliminated before demolition is permitted to begin.

(4)~~(5)~~ An employer shall ensure that manual demolition of structural components starts at the top of the structure and proceeds downward so that each level is completely dropped before the next lower wall and floor is dropped, except that if a connection portion is a different level, then that portion may be removed first. This requirement does not prohibit the cutting of a floor for the removal of materials if the requirements of R 408.42044 are complied with.

(5)~~(6)~~ An employer shall ensure that an employee shall not be exposed to weather conditions during demolition work if weather conditions constitute a hazard.

(6)~~(7)~~ During manual demolition of a structure of skeleton steel construction, the steel framing may be left in place, but an employer shall ensure that all structural supports are cleared of loose material as the demolition proceeds downward.

(7)~~(8)~~ An employer shall ensure that an employee is not permitted to work on a floor below a floor opening when demolition is conducted on the upper level, unless the employee is protected by a solid barricade not less than 42 inches high and located not less than 6 feet back from the projected edge of the opening above.

(8)~~(9)~~ During demolition, an employer or his or her designated representative shall make daily inspections to detect hazards and unsafe conditions. An employer shall ensure that an employee is not permitted to work where hazards exist until the hazards are corrected by shoring, bracing, or other effective means.

R 408.42034 Material chutes and drops.

Rule 2034. (1) The area onto and through which material is to be dropped shall be completely enclosed with barricades not less than 42 inches high and not less than 6 feet back from the opening and the area receiving the material. Signs warning of the hazard of falling materials shall be posted on the barricades at each level containing the barricades.

(2) Where material is dropped through more than 1 level, the opening shall be enclosed between the upper and lower levels, an enclosed chute shall be provided, or the intermediate levels shall be barricaded as prescribed in subrule (1) of this rule. If the drop is more than 40 feet inside the building, only an enclosed opening or chute shall be used. The chute or enclosure shall extend through the ceiling of the receiving level.

(3) A material chute shall be constructed to withstand any impact load imposed on it without failure.

(4) A material chute, or section thereof, at an angle of more than 45 degrees from the horizontal shall be entirely enclosed, except for an opening equipped with a closure at or about each floor level for insertion of materials. The opening shall not be more than 48 inches in height measured along the wall of the chute. At all stories below the top floor, the openings shall be kept closed when not in use. The chute shall fit the floor or wall opening or the open space shall be closed.

(5) Where material is dumped from mechanical equipment or a wheelbarrow, a toeboard or bumper not less than 4 inches thick by 6 inches high nominal size secured to the floor shall be provided at each material chute opening.

~~(6) Where the drop is more than 20 feet outside the exterior of the building, a chute as prescribed in subrules (3) to (5) of this rule, shall be used and shall extend to within 8 feet of the lower level.~~

~~(7) Removal of material, barricades, and chutes shall not be permitted until material handling by use of a chute ceases.~~

R 408.42041 Removal of chimneys, stacks, and walls.

Rule 2041. (1) During manual demolition, a wall or ceiling shall not be permitted to fall on a floor of a building unless the floor is capable of sustaining the impact.

(2) A chimney, stack, or wall shall not be permitted to stand alone without lateral bracing unless it can withstand the force of the wind and other uncontrolled forces. A chimney, stack, or wall shall be left in a stable condition at the end of each shift.

(3) During manual demolition, a wall serving as a retaining wall to support earth shall not be demolished until the load against the wall has been removed.

(4) A wall serving as a retaining wall for debris shall be capable of supporting the imposed load.

(5) A wall serving as a bearing wall for an adjoining structure shall not be demolished until the adjoining structure has been underpinned.

(6) ~~The materials from a brick or masonry chimney or stack that is manually demolished shall be dropped inside the chimney or stack, unless an area around the chimney or stack that is equal in radius to 1/4 the height can be sealed off by a guardrail or barricade to prevent employee entry during the drop operation. If material is dropped inside the chimney or stack, any opening shall be closed or barricaded when material is being dropped.~~

~~(7)~~ Safety access to and from the top of the chimney or stack shall be provided during manual demolition.

~~(8) Safety belts, lanyards, and lifelines, as prescribed in Part 45. Fall Protection, being R 408.44501 et seq. of the Michigan Administrative Code, shall be used to protect an employee on the chimney or stack during manual demolition.~~

R 408.42043 Removal of structural steel.

Rule 2043. (1) During manual demolition, structural steel shall be removed column length by column length and tier by tier without overstressing any member.

(2) ~~Scaffolds, as prescribed in Part 12. Scaffolds and Scaffold Platforms, being R 408.41201 et seq. of the Michigan Administrative Code, shall be provided for the employee to stand on while removing the structural steel or else the personal protective devices as prescribed in R 408.42041(8) shall be worn and used.~~

~~(3)~~ Structural steel members shall be lowered from an upper level by mechanical means.

R 408.42045 Mechanical demolition.

Rule 2045. (1) Mechanical equipment shall not be used on a floor or other working surface unless the floor or surface is capable of supporting the imposed load of the equipment and the anticipated material loads.

(2) Equipment used in mechanical demolition shall comply with both of the following:

(a) ~~It shall~~ Only be operated by a qualified and authorized employee.

(b) ~~It shall~~ Meet**s** the requirements prescribed in the applicable rules of Part 10. Lifting and Digging Equipment, and Part 13. Mobile Equipment, ~~being~~ R 408.41001 et seq. and R 408.41301 et seq. of the Michigan Administrative Code.

(3) A floor or wall opening shall have curbs or stop logs, as prescribed in R 408.42034 to prevent mechanical equipment from running over the edge.

(4) Only those employees necessary to the operation of mechanical demolition equipment shall be permitted in the demolition area at any time.

(5) The weight of a demolition ball shall not be more than 50% of the crane's rated load based on the boom length and the maximum angle of operation that the ball will be used, or the weight shall not be more than 25% of the nominal breaking strength of the line and connection by which it is suspended, whichever is the lesser.

(6) The crane boom and load line shall be as short as possible to accomplish the job.

(7) The ball shall be positively connected to the load line with a swivel connector to prevent accidental disconnection and to prevent twisting of the line.

(8) ~~When it is necessary to restrict the swing of a ball, a drag line or tag line between the ball and the crane shall be provided.~~

~~(9)~~ Roof cornices and other ornamental stonework shall be removed before pulling a wall over, except when balling or clamming.

R 408.42046 Demolition by use of explosives.

Rule 2046. ~~(1)~~ Explosives handled, transported, stored, and used in demolition shall be as prescribed in **General Industry Safety Standard** Part 27. 'Blasting and Use of Explosives,' being R 408.42701 et seq. of the Michigan Administrative Code.

~~(2) Before firing of the explosive blast, employers and employees shall be removed from the area that might be affected by the blast.~~

R 408.42047 Storage of debris.

Rule 2047. (1) Storage of debris or salvaged material on a floor shall not exceed the allowable floor load.

(2) Storage space into which material is placed shall be blocked off by a barricade or wall when hazardous to an employee, except for an opening used to place or remove the material. The opening to the storage space shall be kept closed at all times when not in use.

(3) ~~When mechanical equipment is used to place or remove stored material, all unnecessary employees shall be removed from the area.~~

~~(4)~~ In a building having wooden floor construction, the flooring boards may be removed from not more than 1 floor above grade to provide storage space for debris, if falling material is not permitted to endanger the stability of the structure.