



Minnesota Department of Labor and Industry

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July 27, 1990

Michele Swanson
Commission Secretary
Legislative Commission to Review
Administrative Rules
55 State Office Building
St. Paul, MN 55155-1201

Dear Ms. Swanson:

Please refer to your July 18, 1990, letter requesting a copy of the Statement of Need and Reasonableness for our recently proposed rules. I am assuming you are referring to the July 16, 1990, State Register publication of proposed rule 5205.1400. This rule is an APA-exempt rule proposed for adoption under Minnesota Statute § 182.655. Rules proposed for adoption under § 182.655 are published with a "Request for Comments" which allows persons interested in the rule to submit written comments, objections, or requests for public hearing within 30-days. The proposal notice includes a summary/background statement (an "abbreviated statement of need") for the proposed rule. A formal, detailed Statement of Need and Reasonableness is only prepared if the rule must go to public hearing.

Because the comment period for this rule is still open, we do not yet know if a public hearing will be required. If a hearing is scheduled and a formal Statement of Need is written, I will be sure to submit a copy to your office. Should you have any questions, please do not hesitate to contact me at 297-3254.

Sincerely,

A handwritten signature in cursive script that reads "Pat Lorentz".

Patricia Lorentz, Management Analyst
Occupational Safety and Health Division

PL/pal
Enclosure: July 16, 1990 State Register



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Proposed Rules

Pursuant to Minn. Stat. §§ 14.22, an agency may propose to adopt, amend, suspend or repeal rules without first holding a public hearing, as long as the agency determines that the rules will be noncontroversial in nature. The agency must first publish a notice of intent to adopt rules without a public hearing, together with the proposed rules, in the *State Register*. The notice must advise the public:

1. that they have 30 days in which to submit comment on the proposed rules;
2. that no public hearing will be held unless 25 or more persons make a written request for a hearing within the 30-day comment period;
3. of the manner in which persons shall request a hearing on the proposed rules; and
4. that the rule may be modified if the modifications are supported by the data and views submitted.

If, during the 30-day comment period, 25 or more persons submit to the agency a written request for a hearing of the proposed rules, the agency must proceed under the provisions of §§ 14.14-14.20, which state that if an agency decides to hold a public hearing, it must publish a notice of intent in the *State Register*.

Pursuant to Minn. Stat. §§ 14.29 and 14.30, agencies may propose emergency rules under certain circumstances. Proposed emergency rules are published in the *State Register* and, for at least 25 days thereafter, interested persons may submit data and views in writing to the proposing agency.

Department of Labor and Industry

Proposed Permanent Rules Relating to Occupational Safety and Health

Notice of Intent to Adopt a Rule

NOTICE IS HEREBY GIVEN that the Department of Labor and Industry, Occupational Safety and Health Division (Minnesota OSHA) proposes to adopt the following revisions to the Department of Labor and Industry, Occupational Safety and Health Rules, as authorized under *Minnesota Statutes* § 182.655 (1988).

All persons have 30 days in which to submit comments in support of, or in opposition to, the proposed rule or any part or subpart of the rule. Comments are encouraged. Each comment must identify the portion of the proposed rule addressed, the reasons for the comment, and any change proposed.

Any interested or affected person may make a written request for a public hearing on the rule within the 30-day comment period. Any person requesting a public hearing should state his or her name and address, and is encouraged to identify the portion of the proposed rule addressed, the reason for the request, and any change proposed.

Written comments, objections, or requests for hearing should be submitted to: Patricia Lorentz, Occupational Safety and Health Division, Department of Labor and Industry, 443 Lafayette Road, St. Paul, Minnesota 55155.

SUMMARY AND BACKGROUND OF STANDARD: In the Spring of 1988, an employee of a Minnesota cement block manufacturing company was killed when an aggregate bin collapsed, dumping 250 tons of sand, cement and fly ash on top of him. The bin, forty feet high, broke free of the forward supports and arced to the floor on the back supports. Minnesota OSHA's investigation revealed that the outer wall of the hopper that held the steel legs in place had corroded, causing the structure to fail. The bin corrosion was apparently due to water and various corrosives, such as calcium chloride, which were added to the aggregate to keep it from freezing in the winter. This collapse could have been prevented if periodic testing and routine maintenance had been conducted and safe loading and operating procedures established.

Following this accident, a "Hazard Alert" was sent to all cement block manufacturing employers in Minnesota warning them of this potential hazard. In addition, Minnesota OSHA conducted inspections of all identified concrete block manufacturers in the state. Although these efforts addressed the immediate problem in this industry, it became evident that inspection and maintenance of these bins (as well as similar bins, hoppers, and tanks in other industries) was not being done on a regular basis. A schedule for structural evaluations was needed, not only for aggregate storage bins, but for all bins, hoppers, and tanks that hold materials for a period of time and located such that employees must work beneath or near the unit.

Detecting corrosion, distortion, and strain is the key to preventing structural collapse. Therefore, it is important for bins to be both visually and instrumentally accessible. Bins can be visually checked for bubbling or rust with special attention to stress points such as surface bottoms, support legs, and connection points. A structural evaluation must be conducted by a person knowledgeable and capable of determining that erosion, corrosion, stress, fatigue, damage, repairs, or alterations have not compromised the design safety factor or load capacity of the bin, hopper, or tank. Visual inspections should be on-going—employees themselves can visually inspect

KEY: PROPOSED RULES SECTION — Underlining indicates additions to existing rule language. ~~Strike outs~~ indicate deletions from existing rule language. If a proposed rule is totally new, it is designated "all new material." **ADOPTED RULES SECTION** — Underlining indicates additions to proposed rule language. ~~Strike outs~~ indicate deletions from proposed rule language.

Proposed Rules

bins for rust and bubbling. Structural tests must be conducted every 12 months if the bin, hopper, or tank held corrosive agents or substances; every five years if corrosive agents or substances have not been stored or used in them. In addition, a structural evaluation must be conducted before a bin, hopper, or tank is returned to service after maintenance or repairs. This is especially important once the unit has been relined or otherwise repaired since relining presents three problems: first, it adds weight and, consequently, stress to the existing structure; second, it conceals any deterioration present on the inside walls; and third, it is rarely re-attached (through welding or bolting) to the support.

Once detected, structural imperfections must be corrected. The standard requires these repairs to be completed in the shortest amount of time necessary so that the integrity of the bin, as well as the safety of employees working in the area, can be assured.

Lastly, the standard requires that structural evaluations be documented and retained at the facility where the bin, hopper, or tank is located; records must be maintained for the life of the unit. Documentation must include the dates the evaluations were done; the names, addresses and employers of persons who conducted the evaluations; the means used and the findings of the evaluations; recommendations made as a result of the evaluation; and the corrective actions taken.

Ken Peterson, Commissioner
Department of Labor and Industry

Rules as Proposed (all new material)

BINS, HOPPERS, AND TANKS

5205.1400 INSPECTION OF BINS, HOPPERS, AND TANKS.

Subpart 1. **Structural evaluation.** The structure of all bins, hoppers, and tanks that are used to hold materials for any period of time shall be evaluated according to the schedule in subpart 2 if employees have access to the area beneath the bin, hopper, or tank or an area surrounding the bin, hopper, or tank with a radius equal to the height of the bin, hopper, or tank. The structural evaluation shall be conducted by a person qualified to conduct the evaluations under subpart 6.

Subp. 2. **Inspection schedule.**

- A. All bins, hoppers, and tanks that have held corrosive agents or substances at any time shall be evaluated every 12 months.
- B. All bins, hoppers, and tanks that have not held corrosive agents or substances at any time shall be evaluated five years after their construction or manufacture and every three years thereafter.
- C. All bins, hoppers, and tanks must be reevaluated before returning the bin, hopper, or tank to service after completion of all maintenance and repairs including relining of the bin, hopper, or tank.

Subp. 3. **Documentation.** All structural evaluations required by this part shall be documented and the required documentation must be retained at the facility where the bin, hopper, or tank is located for the life of the bin, hopper, or tank. The documentation must be made available upon request to representatives of the Occupational Safety and Health Division. Documentation of the structural evaluations must include:

- A. the dates on which structural evaluations were conducted;
- B. the names, addresses, and employers of persons conducting the structural evaluations;
- C. the means used to structurally evaluate the bins, hoppers, or tanks;
- D. the findings of the structural evaluations;
- E. the recommendations made as a result of the structural evaluations for maintenance and repairs; and
- F. the dates on which recommended maintenance and repairs were completed.

Subp. 4. **Repair schedule.** If structural deficiencies are found during a structural evaluation, all maintenance and repairs, including relining of the bin, shall be completed within the minimum amount of time necessary to complete repairs.

Subp. 5. **Means of evaluation.** All structural evaluations conducted under this part shall include visual and metallurgic evaluations which are capable of determining that erosion and corrosion does not exceed 1/16th of the original material thickness and that stress, fatigue, damage, repairs, or alterations have not compromised the designed safety factor nor the load capacity.

Subp. 6. **Qualified person.** A person is qualified to conduct structural evaluations under this part if through education, training, or experience, they are capable of determining, through visual and metallurgic evaluations, that erosion, corrosion, stress, fatigue, damage, repairs, or alterations have not compromised the design safety factor nor the load capacity.