



MANAGING CONSTRUCTION RISKS

Inspection and maintenance important for equipment and facilities

Timothy G. Galarnyk

On August 1, 2007, the Interstate 35W bridge in Minneapolis, Minn., collapsed. I've chosen to use this occurrence to emphasize the risk management obligations of precast concrete manufacturers. With a proper inspection and maintenance routine, private owners, operators, and contractors can avoid similar disasters.

The public owner's responsibilities

The I-35W bridge collapse was not intentional. However, the event was possibly foreseeable, calculable, and, therefore, preventable. Most incidents and events such as this one can be prevented if proper and prudent actions are taken when inspections identify defects.

The Minnesota Department of Transportation (MnDOT) owns and is responsible for the bridge. It controls, inspects, operates, maintains, repairs, and supervises the bridge. However, MnDOT is not necessarily acknowledging its responsibility in this calamity.

If a private owner had failed in its obligations to maintain and inspect a bridge, the owner would suffer legal, and most likely criminal, consequences. If this bridge were privately owned, a number of governmental agencies would most likely charge the private owner with negligence. Criminal charges are not unheard of when private businesses are involved in an event resulting in injury or death.

The private owner's responsibilities

An example of a private owner's responsibility is the epoxy supplier on the Big Dig project in Boston, Mass. In 1999, as this huge infrastructure project was progressing, a New York-based epoxy manufacturer supplied a fast-drying epoxy to the project contractor for use in securing the mounting bolts to the tunnel ceiling. It is believed that an epoxy that is not suitable for overhead use may have been used.

On August 8, 2007, the Massachusetts Attorney General issued a criminal indictment against the epoxy manufacturer for allegedly failing to warn construction contractors about the "potentially deadly consequences of using fast-drying glue to secure the ceiling bolts."

This case is an example of the high standards to which state and federal authorities hold private firms.

Your responsibilities

As owners of precast concrete manufacturing facilities and as contractors who deliver, handle, and sometimes erect precast concrete elements, you have an obligation to inspect and maintain your equipment. You are obligated to inspect and maintain all machinery, tools, cranes, trucks, and

manufacturing plants and must take this duty seriously.

Part 29 of the Code of Federal Regulations (CFR) governs workplace safety and health. The 29 CFR section 1926 provides the basis for construction safety and health. It contains countless references on required inspection and maintenance of everything from cranes to forklifts, rigging to hand tools, and scaffolding to ladders, as well as fall-prevention harnesses, batteries, and the like. For those in the construction field, your managers must be familiar with their responsibilities under this section.

Section 1910 of 29 CFR deals with the Occupational Safety and Health Administration (OSHA)—promulgated safety and health regulations that apply to general industry. Most precast concrete manufacturing facilities are governed by this section. At least 1000 pages in the general industry section of OSHA cover workplace safety obligations for the inspection and maintenance of things such as tools, overhead cranes, rigging, materials handling, and facility and operational machinery. You or your plant managers should be familiar with all of the items that require inspection and routine maintenance.

In addition to these specific regulations, OSHA also references American National Standards Institute (ANSI) and other standards that must be followed for worker safety and health. For example, OSHA references ANSI B30 for inspecting and maintaining cranes. The users of cranes, rigging, and even trucks and

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trailers must inspect and maintain this equipment in such condition that it is safe and suitable for its intended use. Exposing workers to equipment that has not been properly inspected and maintained will almost certainly lead to an unplanned event—which could cause damage, injury, or death—for which you may be held responsible.

Subpart C, General Safety and Health Provisions Accident Prevention Responsibilities, of 29 CFR 1926.20(b)(2) states that it is the responsibility of the employer to initiate and maintain an accident prevention program and that “such programs shall provide for frequent and regular inspections of the jobsites, materials and equipment to be made by a competent person.”

When fabricating and supplying precast concrete elements, be certain that they are properly manufactured and contain fixtures that will facilitate handling and erection. Lifting anchors must be designed and inserted in compliance with industry standards. Lifting anchors and fixtures must be identified and tagged with their designed capacity. They then must be inspected to ensure that they are properly installed and free of damage.

Subpart H, Materials Handling, Storage, Use and Disposal, of 29 CFR 1926.251(a)(1) specifies that “Rigging equipment for material handling shall be inspected prior to use on each shift. ... Defective rigging equipment shall be removed from service.”

Each company should make a checklist of all of the items that OSHA requires to be inspected and maintained during construction and in general industry to make the tracking of these important regulations much easier.

Good business sense

Failure to inspect and maintain your equipment can eventually lead to disaster. Good risk management practices outline the need for proper inspection and maintenance of your assets. Inspection and maintenance

is good business. You shouldn't do it just because OSHA or any other governmental agency tells you.

Inspection of the tools, equipment, machinery, and facilities where precast concrete components are manufactured is essential and required by law, but it is not enough just to inspect. You must maintain your tools, equipment, machinery, and facilities to keep them operating properly, safely, and efficiently.

If you rely on outside companies or services to inspect your machinery, cranes, and equipment, be sure that these services are competent, reliable, and responsible. Be sure that you have written agreements with these firms. Be sure that you have certificates of insurance that cover not only their errors and omissions but also worker compensation, general liability, and excess liability. It is always good practice to have an indemnification agreement that requires the service firm to be responsible for their mistakes.

Missing responsibility

As owners of private companies, you do not have the luxury of immunity and capped liability.

When you design and manufacture precast concrete components, you inspect the quality of the pieces to avoid failure. When an inspection identifies a defect or a damaged condition, you must fix it. Identify the cause of the defect, fix the cause first, and then repair the defect. That is proper risk management.



About the author



Timothy G. Galarnyk is CEO of Construction Risk Management Inc. (CRM). Galarnyk has over 30 years of education, training, and field experience in construction and construction-risk management. He has traveled the world promoting construction-risk initiatives, injury and fatality prevention, and investigation of these events for legal adjudication.

Synopsis

With proper inspection and maintenance routines, private owners, operators, and contractors can avoid disasters.

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Reader comments

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