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Cranes come under increasing scrutiny

Two deficiencies noted in San Diego equipment

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Tower cranes loom large on San Diego's skyline, hoisting tens of thousands of pounds of material for building skyscrapers and delivering the loads to workers hundreds of feet above the street.

Across the country this year, cranes just like them have fallen and killed 11 people – more than the total for the past decade, crane experts and regulators said.

“If the equipment doesn't work or if people don't operate it right, something will happen and gravity will take over and that crane will come down,” said Brad Closson, president of Craft Forensic Services, a Bonita company that investigates crane accidents.

In San Diego County and California, tower cranes generally have good safety records. There have been no accidents involving the machines in the county for more than a decade, the California Occupational Safety and Health Administration said.

However, critical safety measures have been breached, according to a review of Cal-OSHA inspection files. Two tower cranes in downtown San Diego have been cited with “deficiency notices” for major infractions in the past 1½ years, according to the files.

On one crane, sensors designed to stop the machine if it exceeds its lifting capacity were defective. On the other crane, a device that automatically stops the machine in case of an emergency was faulty.

Tower cranes have proliferated downtown and become as much a part of the urban landscape as the gleaming, high-rise condominium and office towers they help build.

There are 20 tower cranes up throughout the city and 38 countywide, Cal-OSHA said. The giants, which weigh as much as 200 tons and reach heights of nearly 500 feet, are larger than the more commonly seen mobile cranes. On Friday, a mobile crane in Houston toppled and killed four people.

San Diego's most recent notable crane accident involved a mobile crane.

In 2003, the boom of a mobile crane snapped and pulled high-voltage power lines across the intersection of



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Robert Jennings of the Tower Crane Task Force (left) and crane technician Matt Finnerty inspected a tower crane last week while Bobby Oulette of H.P. Forming International Inc. operated the crane and lifted thousands of pounds to test the jib.

Interstates 5 and 805, closing the merger area for hours during a morning commute.

In March, a 7-ton section of a crane in Miami fell 30 stories. Two people were killed and five were injured.

Also in March, seven people died when a 200-foot crane fell and crushed a building in Manhattan. Two months later, the arm of another New York City crane fell and killed two people.

Tower cranes in California are facing extra scrutiny because of the recent collapses, said Mel Dunn, a Cal-OSHA compliance engineer and head of tower crane inspections for six counties in Southern California, including San Diego.

“When there’s an accident, it’s a wake-up call – let’s look a little closer at these things,” Dunn said.

California has some of the nation’s most stringent safety requirements for cranes.

The rules were put in place after a crane fell 16 stories in San Francisco’s financial district in 1989. The disaster killed five people and prompted state officials to recognize that federal standards for crane safety were weak and outdated.

The resulting Tower Crane Task Force and tougher state regulations mandate comprehensive inspections at critical phases of a crane’s use, require operators to be licensed and obligate crane managers to perform safety checks.



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Tower cranes weigh as much as 200 tons and reach heights of nearly 500 feet. Three tower cranes punctuated the San Diego skyline this month and 20 of them are up throughout the city.

Tower cranes are supposed to be inspected three times before the first load is lifted. State-certified inspectors perform two and Cal-OSHA does the third.

“This ensures we have somebody looking at every step of the assembly process,” Dunn said.

Once the cranes are in operation, they must undergo inspections every six months. In between, crane operators are expected to conduct daily checks and more rigorous inspections for every 750 hours of operation.

Despite the safeguards, Cal-OSHA routinely discovers safety violations. “They should be identified and corrected before we get there,” Dunn said. “Our inspections should all note ‘no deficiencies,’ but that’s not the way it is.”

Some deficiencies are so serious that Dunn directs the crane owners to make immediate repairs or face orders to shut down the machines.

That was the case Jan. 23 when Dunn identified an inoperable “dead man” safety control on an H.P. Forming International Inc. tower crane being used at the nine-story Breeza condominium project in Little Italy.

The safety control shuts down a crane in an emergency. It wasn’t working on the day Dunn inspected the crane as part of his agency’s permit renewal process.

Representatives for H.P. Forming were unavailable to comment on the deficiency that Dunn noted in his report. A spokesman for Intergulf Development Group, the company building the project, said safety flaws are corrected right away.

“When issues relating to safety on the job site come to our attention, they are addressed,” Intergulf

spokesman Brian Buchanan said.

A few blocks away on April 4, 2007, Dunn found a faulty safety device for a tower crane being used at the 36-story Bayside at the Embarcadero condominium project. The hoist-limiting device is designed to automatically shut down the crane if it exceeds its lifting capacity.

Dunn directed New Way Structures Inc., the crane's owner, to repair the device within a week.

Caleb Grunseth, project manager for the company, said he doesn't know how long the device had failed. But he thought it couldn't have been out of order for too long because his crane operators regularly conduct inspections.

In fact, he said, it was his crew members that detected the defect on the day of the Cal-OSHA inspection and brought it to Dunn's attention. They made the repairs immediately, he said.

Cal-OSHA's safety and inspection requirements are demanding but important, said Scott Rhodes, tower crane superintendent for Brewer Crane and Rigging in Lakeside. The company rents and assembles tower cranes in Southern California, including three in operation in San Diego and six in Los Angeles.

Complying with safety requirements increase costs, but Rhodes said an accident would be far more costly in penalties for missed deadlines, increased insurance premiums and liability payments.

Tower cranes are built on location and are anchored in 25-foot-deep holes filled with concrete and reinforced with steel rebar.

Once a crane is up, Dunn or another Cal-OSHA inspector spend about six hours looking for loose bolts, cracked welds, rust and problems with fail-safe devices.

Dunn has been an inspector 15 years and is one of five Tower Crane Task Force supervisors who oversee a statewide staff of 15 inspectors. The team inspects about 200 tower cranes annually.

Rarely does Dunn find a crane without any defect. "There are always loose bolts, cracked welds or frayed cables," he said.

He also has discovered safety systems that are disabled, sometimes crude breaches of a crane's sophisticated fail-safe system. Once, Dunn said, he found a dime wedged into the dead man control.

The switch must be engaged constantly, but the dime allowed the operator to bypass the system.

"We know the tricks and we look for them," Dunn said.

The safety breaches usually don't result in cranes being shut down or formal citations being issued and fines imposed. When there's a shutdown, the whole construction job comes to a halt or slows significantly, costing the developer potentially hundreds of thousands of dollars.

That's motivation enough for operators to make timely repairs, Dunn said.

Staff researcher Merrie Monteagudo contributed to this report.

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Robert Jennings (left) and Matt Finnerty inspected a tower crane on West Ash Street last week.

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