The Comanche Peak nuclear plant near Glen Rose narrowly averted an accident in October that could have exposed workers to high doses of radiation, the Nuclear Regulatory Commission said in a report on the incident. The plant was shut down for maintenance when a 40-ton motor being hoisted fell 20 to 30 feet, and was stopped eight feet above its base only because a random link of chain became lodged in a pulley assembly.

If the motor had continued its plunge, it could have damaged piping and caused water to drain from a tank that contained a piece of radioactive equipment. Radioactivity from that piece of equipment, known as a core barrel, could have exposed 20 to 40 people under a worst-case scenario, said Joseph Tapia, a NRC division chief in Arlington. The NRC said the public was never at risk for exposure to radiation.

"A rapid draaindown of the refueling cavity could have exposed personnel to high doses of radiation from the exposed core barrel, which was stored in the refueling cavity," the NRC report said.

But Tapia said the people working in the plant likely would have been evacuated in time to avoid exposure.

Officials at TXU, the Metroplex utility that operates the nuclear plant about 70 miles southwest of Fort Worth, said that, as a result of the incident, the company has instigated new safety procedures. Plant officials also held a public meeting last month to discuss the incident.

The NRC report blamed the accident on a gear failure on a 45-ton electricity-driven chain hoist, which was moving the massive motor. The incident occurred during a monthlong shutdown of the plant for refueling, as personnel were replacing an older piece of equipment with an updated motor.

"A failure in the chain hoist allowed the chain to free-wheel through the chain blocks and the motor dropped 20-to-30 feet in a matter of seconds," the NRC report said. "As the chain was freewheeling, one link randomly lodged in the lower chain block, which arrested the unplanned accelerated descent. The motor stopped approximately 8 feet above its base."

Rand LaVonn, a TXU spokesman, said the company is changing the design of the hoist because of the incident.

"Everything was done within [proper] procedures. That's what the NRC said. ... But we're always concerned about safety. That is our highest priority and that's why we are taking these corrective actions," he said.

NRC inspectors determined that plant operators violated safety standards, but the agency did not fine the company.

A group of TXU engineers, working with the NRC, blamed a misalignment of gears in the hoist for the incident. Their conclusions were included in the NRC report, which noted that "the
misalignment of gears had not been identified following maintenance ... in 1994, during which the hoist had been rebuilt and reassembled incorrectly."
The report noted that the company missed at least two other opportunities to identify problems with the equipment.
One opportunity occurred in October 1999, when the company failed to perform a mechanical inspection after the hoist failed to operate correctly. And in 1996, evidence was found during routine maintenance that gears in the hoist had been rubbing on the inside of a cover plate.
Jim Riccio, a senior analyst for Public Citizen, the consumer watchdog group founded by Ralph Nader, agreed that the general public was never at risk. But such incidents, he said, can have serious consequences for the company, its personnel and electric utility customers.
"They got lucky that that chain caught, or they would have had some serious downtime," Riccio said. "If you read this, it raises the hair on the back of your neck."
The safety violation was among the least severe that the agency has handed out. The utility, however, has been cited for more serious violations at the Glen Rose plant.
An NRC official said the company was fined $50,000 for a safety violation in 1993, and was assessed fines of $125,000 and $25,000 in 1992.
TXU spokesman LaVonn, however, said the plant has one of the best safety records in the nation.
"We are very proud of Comanche Peak," he said. "Safety is our highest priority."
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MAP(S): Nuclear plant accident