NRC Issues Violation for Missed Nuke Plant Flaw

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RALEIGH, N.C. (AP) — Analysts hired to look for flaws inside a Duke Energy nuclear plant might have missed a tiny crack near the reactor core that went undetected for a year because they worked for weeks without a day off and may not have worked independently, a report Thursday by federal regulators said.

The Nuclear Regulatory Commission's inspection report found the operators of the Shearon Harris nuclear plant near Raleigh violated an NRC requirement by failing to find and report the quarter-inch spot of corrosion and cracking near the reactor core. The discovery forced a full shutdown in May after fresh eyes reviewing year-old data found the problem.

The violation had very low safety significance, and four smaller flaws were found and fixed last year, the NRC said. There was never any radiation leakage from the reactor vessel, which contains the heat and pressure produced by the nuclear core's energy, the NRC said. Duke Energy has returned the plant to full power.

"One of the reasons we are not taking any further action is we felt that overall they did a good job identifying the issues and taking corrective actions to ensure there was less likelihood of something like this happening in the future," NRC spokesman Roger Hannah said.

Duke Energy is reviewing the NRC report, a spokeswoman for the nuclear plant said.

"We are continuing to examine our processes and procedures closely, and will use the NRC's report and our own independent evaluation to implement actions to strengthen our inspection program," spokeswoman Kim Crawford said in an emailed statement.

The report said expert-level outside analysts missed indications of the problem that showed up in ultrasonic tests performed while the nuclear plant was refueling in spring 2012.

A Duke Energy review cited in the NRC report said the hired consultants worked in tight quarters with noise and other distractions. One of analysts had worked 24 days without a day off, while the other had been going for 17 days, the NRC report said. Both said such non-stop work was common within the industry during nuclear reactor refueling periods, the NRC report said.

The outside consultants also were working closely and may not have come to independent conclusions about the data, the NRC said, citing the company's review. Duke Energy's analysis says future contracts should insist that multiple teams of analysts remain separated as they review data and have their work environments improved, the NRC report said.

"We didn't specifically tell them to do certain things regarding those kinds of working conditions, but certainly we don't disagree with their assessment that that may have contributed to it being missed the first time," Hannah said.

The cap on top of the reactor vessel, called a vessel head, will now be checked for similar cracks every time the reactor is refueled, NRC inspectors said.

About a third of all U.S. pressurized water reactors like Harris have had cracking show up on a nozzle in the vessel head, the NRC said. The cracks are caused by the extreme temperatures of the water heated by the nuclear reaction and acid that results from boron mixed with the water to extend the life of the fuel, Joe Austin, the senior NRC inspector stationed at the Harris plant, said last month.

Duke Energy took over the Harris plant after it acquired Raleigh-based Progress Energy Inc. last year, which made it the country's largest electric company. Duke Energy's two resulting operating subsidiaries in the Carolinas each have territories that serve parts of North Carolina and South Carolina that depend heavily on nuclear energy.

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