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Indian Point asks NRC for exemption

By Abby Luby

Wants window to check viability of back up pump system

Entergy Nuclear has asked the Nuclear Regulatory Commission to drop a requirement that would ensure that a backup safety system at the Indian Point Nuclear Power Plants are working in the wake of a catastrophic incident.

Entergy has asked the NRC—which is currently considering relicensing the plant—to allow the plant 24 hours to see if the primary emergency system breaks down before ensuring the backup will work.

According to David Lochbaum of the Union of Concerned Scientists, who wrote the letter to the NRC that strongly objected to the proposed change, the first 24 hours are when emergency components are most likely to malfunction.

“The piping from the primary pumps is stressed most during the first 24 hours of an accident because of higher water temperature and higher flow rates and that’s when the piping would most likely fail to function,” he said. “Entergy wants their license rules to negate the scenario of failed piping until after 24 hours. It’s fanciful for Entergy to solve its problem by hand-waving away a failure at a time when it is most likely to happen.”

Jim Steets, Entergy spokesperson, said that the exemption is a very small part of a much larger, comprehensive modification of the sump system done to prevent clogging and to ensure water is recirculated for cooling in a major loss of coolant event that has never happened before and which chances are extremely small.

“Having the exemption does not reduce our capability to

operate the sumps effectively,” said Steets.

He said that as a result of the modifications made in 2004, the primary sump is much larger and capable of handling debris.

The nuclear reactor core of a nuclear power plant is housed in its dome, where large pipes pump water in to cool off the reactor.

If one of those pipes were ruptured, it would drain cooling water from the reactor and could lead to the core’s meltdown, which would release radiation and could cause millions of deaths as far as 500 miles from the plant, according to a February 2001 NRC report.

In order to prevent such an event, the plant is equipped with a primary sump and a backup sump. The backup sump is necessary because, amongst other things, the primary sump could become clogged with debris.

Entergy’s request was revealed at the NRC’s annual safety assessment meeting last week when a letter from the Union of Concerned Scientists that strongly objected to the proposed change was brought to the attention of NRC regional director Sam Collins. Collins said he was not familiar with Entergy’s request and he referred questions to John Boska, NRC senior project manager.

Boska said that Entergy made the request in March and that the NRC now must write a safety evaluation on whether it meets the regulations and the requirements for such an amendment.

The primary emergency pumps are programmed to respond to pipe breaks by pumping out large volumes of water of about 10,000 gallons per minute. In a worse case scenario, a failure in the primary pump could cause the backup pump to be overwhelmed and fail.

In the event of a large pipe rupture, the velocity of water could scour paint off the walls, rip insulation from piping and tear coating off equipment. The debris would fall to the basement and most likely clog the screens in front of the backup sump. Water needed immediately from emergency pumps to cool the reactor may not be available because of the clog.

According to Steets, that is why the company spent

millions on modifications.

According to Boska, many pressurized water reactors such as Indian Point have the 24 hour grace period.

“Indian Point is asking to relax their conservative licensing basis to something that’s more in line with what most other water pressure reactors have in the U.S,” he said.

Entergy, however, is basing that request on an NRC regulation from 1977 that assumed only 50 percent of the sump screens would be clogged from a ruptured pipe. The 24 hour grace period established in 1977 gives plants that period of time to see if enough debris has blocked the pumps from working before checking the secondary system.

From tests and real events, the Union of Concerned Scientists claims that loosened debris clogs the screens more than 50 percent and based on that, other power plants have made modifications to the screens.

In 2004, the NRC suggested all plants modify their sumps.

Losing focus

At the NRC meeting last week formally assessing Entergy’s safety performance for 2007, some criticized the 24-hour request as another indication of what they called Entergy’s lack of focus on root causes for problems at the plant. NRC panel members criticized Entergy for being much too focused on individual plant components and not looking at the bigger picture of problems at the plants.

Pat Conroy of Entergy admitted that the company improperly assessed the NRC findings on staff performance.

“We couldn’t determine what areas to focus on to address where the real problems are,” he said. “There was slow progress in developing the project with human performance for following correct procedures.”

NRC’s Mel Gray, chief of projects, reminded Entergy that it had been notified three times about performance by plant workers who didn’t follow procedures adequately.

“We want to know why you have not yet been successful in clearing this issue,” he said.

Entergy’s site vice president Joseph Pollack said the

company didn't look broadly enough at the NRC findings.

"We looked at it in a very myopic way," he said. "That's why our process was too slow."