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Entergy wins 24 hours to analyze accident

By Abby Luby

Officials at the Indian Point Nuclear Power Plants now have a 24-hour window to analyze an accident, if one should happen at the plant.

Entergy, the owner of the power plants, asked the Nuclear Regulatory Commission (NRC) last spring for an extra 24 hours after the onset of an accident in order to assess how well a backup system is functioning.

The backup system in question has to do with the pressurized pipe that supplies water to keep the reactor cool, preventing the radioactive core from a meltdown which would cause a release of radiation into the atmosphere. If the pipe ruptures, a backup sump system supplies water from other sources to keep the reactor cool.

NRC project manager for Indian Point John Boska said they looked at 40 years of data before granting Entergy's request for the extra 24 hours.

"We used risk assessment data to see how often piping fails and based on that data there is a very low probability that there will be a failure," he said.

David Lochbaum of the Union of Concerned Scientists said the decision should have been based on scientific experiments, not data.

"Science and logic says a system failure will most likely occur in the first 24 hours, not when it's most convenient to fail," he said. "There is a disconnect in their [NRC's] logic. Entergy wants to magically believe that the pipe can't break and the NRC granted that wish."

According to Lochbaum, the pressure in the recirculation piping is designed for 220 pounds per square inch. The thin walls of

the recirculation piping are most likely to fail when the water pressure inside the piping reaches its maximum, which occurs in the first 24 hours. If the pipe bursts, the release would rip off massive amounts of insulation and coatings creating debris that would clog pumps in the sump system that supplies back-up coolant water.

Indian Point has already improved their sump system, Entergy spokesperson Jerry Nappi said.

“Entergy has spent millions of dollars to make the primary sump system and the back-up system larger and capable of handling debris that could enter in the unlikely event of an accident,” Nappi said. “The granting of the [24-hour] request will help ensure that the modifications already made to the backup sump will be sufficient to handle any amount of debris.”

Nappi added that the NRC decision acknowledged Entergy’s recent upgrades.

Lochbaum said even though Entergy spent millions upgrading Indian Point’s backup sump system, it still wouldn’t work under several conditions because the crucial part without a backup is the main coolant pipe.

“You have two of just about everything, two sumps, a bunch of pumps, backup generators,” he said, “but you only have one pipe and that’s the weak link, the Achilles heel in the whole thing.”

Nappi claimed that duplicating the piping was impractical.

“The fact that the failure of nuclear grade piping is extremely unlikely makes the installation of such piping unwarranted,” he said.

In 2002, the Davis-Bessie Nuclear Power Plant near Toledo, Ohio, one of the cooling water pipes was corroded by acid and was dangerously close to rupturing. It took one year for the plant to correct the problem.

Boska said even though Entergy had not yet completed its general analysis on the entire sump system, the decision for the 24-hour window was granted pending a final report expected in August 2009.

Lochbaum maintained that the first 24 hours of an accident are the most dangerous because of higher water temperature and higher flow rates causing the piping to most likely fail, impeding backup water getting to the reactor.

“You’ve emptied the backup water tank outside and the water you’d like to use is in the containment sumps but you have no

way of moving it," he said.

In May 2007, Entergy applied to renew its operation license to keep Indian Point Units 2 and 3 running until 2033 and 2035 respectively. The units were built in 1973 and 1975. Entergy, which purchased the plants from Con Ed in 2000, is seeking to renew its license by 2013 and 2015. The 22-month application process is still under review.