

Report reveals majority of US nuclear plants are leaking radioactivity

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23 June 2011

Weeks of flooding in Nebraska, Iowa and Missouri have threatened two nuclear plants in eastern Nebraska. Both have issued “unusual event” alerts (the lowest of four emergency levels) to the federal Nuclear Regulatory Commission (NRC).

The Missouri River is expected to rise five to seven feet above flood stage in the state of Missouri in the next few days. The Cooper Nuclear Power Station, located about 70 miles south of Omaha, is operating at full capacity. Early last Sunday, the plant issued an “unusual event” alert when the river rose to 899 feet above sea level. By late Sunday the river was up to 900.56 feet above sea level.

Mark Becker, a spokesman for the Nebraska Public Power District, the utility that runs the both nuclear plants, was quoted in the *New York Times* saying that the river would need to rise more than a foot and a half to force a shutdown, adding, “We’ll continue to operate until we reach that level.”

An Associated Press aerial photo published by msnbc.com, showing the Fort Calhoun nuclear power station, 19 miles north of Omaha, surrounded on all sides by water from the overflowing Missouri River, has been widely circulated on the Internet. While government and industry officials claim that the flooding presents no danger, on June 6, the same day the plant informed the NRC of the “unusual event” alert, the Federal Aviation Administration issued an indefinite no-fly “hazards” restriction over the immediate area of the plant. The NRC has stated that neither of the two Nebraska nuclear power stations affected by the flooding is viewed as being at risk for a disaster.

Just last year, the NRC issued a safety violation to the Fort Calhoun plant for not being sufficiently prepared for floods. A “yellow” rating, the second most serious,

was issued, and changes were ordered by the federal agency to prevent possible core damage in the event of flood. Even though the Fort Calhoun plant has been offline, not generating power, since April, flooding still poses a danger to the reactors’ cores.

The disaster at the Japan Fukushima nuclear power plants, resulting from the earthquake and tsunami and exacerbated by the negligence of corporate interests and regulators, has focused public attention on nuclear safety worldwide. In the face of growing popular concern, both industry and government representatives are responding with indifference, seeing the problem the nuclear power industry faces as a matter of image and public perception.

On Tuesday, the Associated Press issued a scathing study on tritium leaks from US nuclear plants.

In its year-long investigation, AP found that of the 65 nuclear power sites in the US, at least 48 of them are leaking water containing tritium, a radioactive form of hydrogen. The report states, “The number and severity of the leaks has been escalating, even as federal regulators extend the licenses of more and more reactors across the nation.”

The aging nuclear power plants have underground piping systems, often encased in concrete, which make it impossible to properly inspect and maintain them for corrosion and leaks. Most US nuclear power plants were built more than 40 years ago, and no entirely new plant has been brought on line since the Three Mile Island disaster in 1979.

The response of the NRC and the industry is indifference. Tony Pietrangelo, chief nuclear officer of the industry’s Nuclear Energy Institute, stated, “The public health and safety impact of this is next to zero. This is a public confidence issue.”

According to the National Academy of Sciences, any

exposure to radiation, no matter how slight, increases risk of cancer. The AP report adds, “It’s hard to know how far some leaks have traveled into groundwater. Tritium moves through soil quickly, and when it is detected it often indicates the presence of more powerful radioactive isotopes that are often spilled at the same time.”

At the same Fort Calhoun nuclear power station that is now surrounded by floodwaters in Nebraska, cesium-137 was found along with tritium in groundwater in 2007.

Two years prior, strontium-90 was discovered with tritium at the Indian Point nuclear plant, just 25 miles north of New York City.

Though the main risk of tritium is in drinking water, the leaks have created doubts by independent engineers about the reliability of emergency safety systems in all 104 US reactors. The Union of Concerned Scientists reported in September that in the history of the industry over 400 radioactive leaks of many different substances are known to have occurred.

The largest nuclear operator in the US, Exelon, acknowledged at a meeting with regulators in 2009 that “100 percent verification of piping integrity is not practical.”

The leaks usually arise from corroded piping which is buried, often under reactors themselves, as part of the cooling systems of the plants. Though often the leaks are contained within the plant boundaries, groundwater leaks at sites in Illinois and Minnesota have contaminated drinking wells of nearby homes.

Exelon, the operator of the two-unit Braidwood nuclear facility in Illinois, has leaked more than six million gallons of tritium-laden water since the 1990s from pipes that carried “monitored” discharges of tritium into the river. These leaks weren’t publicly reported until 2005. Last year Exelon was fined \$1.2 million after it acknowledged violating Illinois state groundwater standards.

In this case, while tritium levels were below the US Environmental Protection Agency’s (EPA) limit of 20,000 picocuries per liter of drinking water, property values of the homes in the area plummeted. After a joint lawsuit from local homeowners was dismissed, Exelon bought several homes, so the residents could leave. Though never made public, county real estate records show that it bought at least nine properties

since 2006 for a total of \$6.1 million.

Other residents weren’t as lucky. Exelon found tritium directly adjacent to but not on their properties. One of these residents, Bob Scamen, had actually worked at the Braidwood facility. He said, “They say our property is not contaminated, and if they buy property that is not contaminated, it will set a precedent, and they’ll have to buy everybody’s property.”

Though AP’s reporting is based on the records of leaks that have been in the records of the NRC, it has only been recently that these have been made public. The report concludes with the observation that the NRC’s reports and actions “suggest a preoccupation with image and perception.”

The NRC issued 40-year licenses to new nuclear facilities when they were being built. Now, as reactors are getting older, 66 have been approved for 20-year extensions.

An NRC staff report issued last June openly acknowledged that the agency “has not placed an emphasis on preventing” the leaks.



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