

Illinois nuclear reactor expels radioactive steam

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A nuclear reactor in Byron, Illinois, about 95 miles northwest of Chicago, released radioactive steam into the environment after an unexpected shutdown Monday morning. The steam was deliberately released by plant operators in an effort to prevent equipment at the reactor from overheating. Additionally, smoke was spotted rising from a station transformer at the plant itself. However, a fire crew called to the scene was unable to determine its source and whether or not it was caused by a fire. The U.S. Nuclear Regulatory Commission declared the incident an “unusual event,” the first of four stages of nuclear emergency.

The Exelon Corporation, which runs the Byron Nuclear Generating Station, claims the reactor lost power after a line insulator failed at an electrical switchyard dozens of miles away from the plant itself. The reactor’s equipment continued to run on diesel power for four days, at which point workers were able to replace the malfunctioning insulator.

The steam released from the plant contained tritium, a radioactive isotope of hydrogen. Although tritium is too weak to penetrate the skin, it can be dangerous if touched, inhaled, or ingested via food or water.

While officials claim that the amount of radioactive material expelled was “minimal” and poses no immediate health risks, they have been unable to determine exactly how much tritium was released in the steam. Tritium molecules are small enough that they are able to pass from tubing in the reactor itself into the water, which is used to cool equipment outside the reactor. It was from this area of the plant, where the turbines normally operate, that the steam was released, in order to reduce pressure and cool the inactive equipment.

Exelon, based in Chicago, is the largest utility holding company and operates the second largest

number of nuclear reactors in the US. This is by no means the first time operators at an Exelon plant have deliberately released radioactive steam in order to cool a reactor. Another of Exelon’s reactors in Braidwood, Illinois, 50 miles southwest of Chicago, expelled tritium steam in 2010. Moreover, in 2006, it was revealed that both the company and state officials had waited years before publicly revealing that this plant had spilled millions of gallons of water, also containing tritium.

The “unusual event” at Byron was not the only radioactive leak at an American plant this week: the Nuclear Regulatory Commission (NRC) also reported a “minor” release of radioactive material at a reactor in San Onofre, California. The origin of this leak remains undetermined.

An investigation by the Associated Press last year revealed that there have been tritium leaks at least at 48 of 65 nuclear energy production sites in the United States. Many of these leaks have found their way into the groundwater via damaged and neglected piping. In fact, two of these previous leaks were documented as contaminating the drinking wells of homes in Illinois, though not at levels exceeding the NRC’s limits for safe drinking water. It is important to note, however, that the American standard for “safe” amounts of tritium in drinking water is nearly eight times that of the European Union.

Even though the frequency and severity of leaks and equipment failures have been increasing over recent decades, as pipes and other equipment fall into ever-greater disrepair, the federal agency charged with regulating the industry has significantly increased the number of licenses, which they have extended for plants. As of 2011, at least 60 percent of nuclear plants have received 20-year extensions on their 40-year

operating licenses.

The Obama administration, despite its professions of concern for environmental safety, maintains an incestuous relationship with Exelon. Rahm Emanuel, the mayor of Chicago and Obama's former chief of staff, helped play a critical role in the merger that formed Exelon in 1999. David Axelrod, until recently Obama's senior advisor, was a communications consultant to the company. In addition to top executives at the corporation having raised significant funds for several of Obama's political campaigns, officials from Obama's energy department have left their posts for lucrative positions at the company.

The incidents at Byron and San Onofre come less than a year after an earthquake and tsunami struck Japan, knocking out power and backup cooling systems at the Fukushima Dai-ichi nuclear plant, triggering meltdowns at three of the plant's six reactors, and eventually leading to one of the worst nuclear disasters in history, second perhaps only to Chernobyl.

Officials at the Tokyo Electric Power Company (TEPCO), which ran the plant, delayed taking critical measures to prevent the reactor from overheating out of concern that they would present considerable expenses to the company in the future. Both TEPCO officials and members of the Japanese government consciously played down the extent of damage to the plant and the health risks facing those living nearby. Even though TEPCO had a long history of cover-ups and safety violations, they were allowed by the Japanese government to remain in control of trying to manage the disaster. Nearly 100,000 people have been forced to flee their homes because of widespread nuclear contamination, and traces of radioactivity continue to turn up in food in Japan's major cities.

Even though TEPCO officials claim they have managed to force the damaged reactors into a state of "cold shutdown," there is evidence that the plant continues to expel radioactive material. Just this week, it was discovered that a dislodged pipe allowed 8.5 tons of radioactive water to leak from the plant. Nuclear experts remain concerned about the structural integrity of the pool in which spent fuel is kept; if this pool were to collapse, it could produce a catastrophe worse than the meltdowns of the plant's three reactors.

After the disaster at Fukushima, even though there

was widespread concern internationally about the safety of nuclear power plants, Obama officials maintained that existing safety regulations were satisfactory and refused to seriously re-evaluate the aggressive plan for expansion of the domestic nuclear industry.

In March 2011, a day after hydrogen explosions erupted at Fukushima's damaged reactors, US energy secretary Stephen Chu went before a congressional subcommittee to claim that "The American people should have full confidence that the United States has rigorous safety regulations in place to ensure that our nuclear power is generated safely and responsibly" and that "the administration is committed to learning from Japan's experience as we work to continue to strengthen America's nuclear industry to reevaluate domestic nuclear industry."

Clearly, as the continual near misses and "minor" accidents at American nuclear facilities reveal, the administration is in fact committed to nothing but the defense of the nuclear industry's profit interests. While these companies remain under private ownership, the health and safety of both the population and the environment will remain, at best, an afterthought.



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