

REP QUARTERLY

Radiological Emergency Preparedness (REP) Quarterly Newsletter

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Message From the Indiana State REP Coordinator

Fall is here, whether we like it or not! As this year comes to a close, I wanted to spotlight a few article series you will see in the 2022 REP Quarterly. First, how extreme weather impacts nuclear power plants and IDHS REP Program's involvement in a series of training for the 2021 Illinois Ingestion Pathway Exercise involving LaSalle Nuclear Power Plant.

Another series, which I'm excited about, is the recent radiation training two IDHS radiation programs employees attended at the Chernobyl Nuclear Power Plant and in the exclusion zone.

In preparation for 2022, I am including a survey to assess the types of REP Program trainings you'd like IDHS to bring to your area. Please [complete this survey](#) by Dec. 1.

I am looking forward to a busy start in the New Year. Please have a wonderful and safe holiday season.

Best,

Courtney Eckstein, REP Coordinator

Extreme Weather: How Nuclear Power Plants Prepare for Winter Storms

Upcoming Special Feature Webinars

From the CBRNResponder Newsletter:

- **Dec. 15:** Data Assessment in CBRNResponder ([Register](#))
- **Jan. 19:** New Feature: Chat ([Register](#))

See the CBRNResponder [YouTube channel](#) for recordings and the [Resource Library](#) for slide decks.

Support Ending for RadResponder, ChemResponder Mobile Applications



The CBRNResponder mobile application will replace the separate RadResponder and ChemResponder mobile applications in August 2022. However, their separate websites will remain. The CBRNResponder Team recommends users download the CBRNResponder application now to begin your organization's transition.

Questions may be sent to support@cbrnresponder.net.



This continues a series of articles about how different natural hazards affect nuclear power plant operations.

Nuclear power plants continue to run in winter weather, and precautions are taken when winter storms approach. It starts with tracking the storm's path, and as assessments of the storm are made and temperatures taken, the following plans are put into motion:

First, heat tracing and space heaters are activated to prevent blockage of intakes and to keep all piping and equipment free of frazil ice, which is made up of very small, needle-like ice crystals that form rapidly and can begin to group and adhere to surfaces. Other actions include refueling water storage tanks, steam generators and main steam lines, feedwater flow sensing lines, fire suppression systems, cooling lines for service water pumps and the ultimate heat sink cooling water supply.

Several internal systems are set up to shut down the reactor if they get too cold. These include system-protection failure modes that will shut down the reactor under certain circumstances, such as a loss of power or extreme cold, and a reactivity control system, which holds the reactor core subcritical under cold conditions.

To read more about nuclear plant protection and reactivity control systems, visit the [U.S. Nuclear Regulatory Commission website](#).

Nuclear Power Plant Spotlight: Palisades (Entergy) in Covert, Mich.

IDHS Radiation Equipment Notice

IDHS is still developing a plan to have all IDHS radiation equipment calibrated and repaired in accordance with manufacturer standards.

Agencies in need of equipment calibration or repair should email hazmat@dhs.in.gov for more information.



As a nuclear facility, Palisades produces no emissions that might contribute to air pollution, global warming or acid rain.

Trained staff regularly monitor air samples and also take samples of lake water, lake-bottom sediment, well water and milk, fish and crops produced in the surrounding area. This environmental monitoring shows no significant change in radiation levels from pre-plant operations. Studies of Lake Michigan water temperatures show no significant thermal impact from plant operation, and meteorological studies have shown no adverse effects on local weather from steam issued from the plant's cooling towers.

Employees help preserve and monitor the Pitcher's thistle, a plant that is on federal and state threatened species lists. The plant grows only in Great Lakes sand dunes, where human intrusion threatens its survival.

Nuclear Safety Enhancements Since Fukushima: In the U.S., Globally



Since the 2011 Fukushima Daiichi nuclear accident, safety has become an even greater priority for stakeholders in power plants and in the nuclear community. Organizing and coordinating practices and exercises, not only on a country-wide level but also internationally, has become a key aspect of nuclear safety. Globally, there has been enhanced training in safety of the nuclear reactors, International Atomic Energy Agency peer reviews, international legal framework and public communication.

In 2019, the U.S. Nuclear Regulatory Commission (NRC) established new requirements for United States power plants that include mitigation strategies for "beyond-design-basis events," as well as switching to a spent fuel pool design to the wide-range spent fuel pool. There were also updates for other equipment, emergency preparedness and flooding and seismic defense.

Changes made by specific plants, including the four near Indiana, are available on the NRC website: [Plant-Specific Japan Lessons-Learned Activities](#). More information about the changes made in the United States (and other resources) can be found on the [Post-Fukushima Safety Enhancements Resources](#) page.

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