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NRC STAFF ISSUES INSPECTION REPORTS ON RADIATION EXPOSURES AND RELEASE OF RADIOACTIVE PARTICLES FROM DAVIS-BESSE NUCLEAR PLANT

The Nuclear Regulatory Commission staff has issued reports for two special inspections into work on steam generators at the Davis-Besse Nuclear Power Plant in February of last year that led to elevated worker radiation exposures and offsite radioactive contamination. The plant, operated by FirstEnergy Nuclear Operating Company, is located at Oak Harbor, Ohio.

On February 20 several contract workers were exposed to unexpected radiation levels while performing work on the steam generators and were contaminated both internally and externally with radioactive material. The workers underwent decontamination procedures before they were allowed to leave the plant site.

Four of the contract workers were subsequently found to have minor radioactive contamination on their clothing when they reported for work at nuclear power plants in South Carolina and Texas. Utility radiation specialists surveyed the temporary housing used by the workers and other associated places and found tiny radioactive particles at several locations in Ohio, Virginia, and South Carolina.

On April 17 the NRC began a special inspection into the offsite contamination. A second special inspection was initiated in September after test results showed that one of the workers had received a potentially significant radiation exposure while working on the steam generators. The NRC inspectors determined that the worker had not received a radiation dose in excess of NRC limits, however, based on evaluations performed by the utility and an independent dose assessment by an NRC contractor.

Under its safety significance determination process, NRC officials classify inspection findings at nuclear power plants as being one of four colors which delineate increasing levels of safety significance, beginning with "green" and progressing to "white," "yellow" or "red."

Two of the findings from the inspections are preliminarily considered to be "white," meaning low to moderate safety significance, and a third finding was found to be green, meaning "very low safety significance." Violations of NRC requirements were associated with all three findings.

The inspection of the worker radiation exposures found two findings with a preliminary evaluation of "white," indicating low to moderate safety significance:

- The utility failed to conduct adequate evaluations of the radiological work conditions prior to the steam generator work.
- The utility failed to make suitable measurements of radioactive material in the work area and to adequately monitor the intake of radioactive material by the workers.

The NRC's preliminary assessment is that these are "white" findings because the failure to perform evaluations of the work conditions resulted in a "substantial potential" for radiation exposures in excess of NRC limits and the inadequate measurements compromised the ability to accurately assess the radiation dose received by the workers.

The inspection which focused on the offsite radioactive contamination resulted in one "green" finding, meaning that it was of very low safety significance:

- Inadequate radiation surveys of the workers resulted in the uncontrolled release from the plant of low levels of radioactive material on their clothing. The low level of radioactivity involved was found to present little potential health risk to the workers or the general public.

The reports note that the utility has adopted corrective actions for these violations which should preclude similar violations in the future. The utility's radiation protection program, including its corrective actions, will be covered by NRC inspections prior to a decision by the agency on restart of the Davis-Besse facility.

FirstEnergy has the opportunity to request a Regulatory Conference to discuss the NRC's safety assessment of the violations or, as an alternative, to provide written comments within 30 days. A regulatory conference, if scheduled, will be listed on the NRC public meeting listing, accessible from the main NRC web page: <http://www.nrc.gov>.

After its evaluation of information presented at a Regulatory Conference or submitted in writing, the NRC will issue its final safety significance determination. The NRC's final determination of the safety significance will be available on the NRC web site at: <http://www.nrc.gov/what-we-do/regulatory/enforcement/current.html>

The inspection reports, issued January 6, will be available on the NRC web site and from the Region III Office of Public Affairs. Although the findings are not related to the utility's ongoing activities related to damage to its reactor vessel head, the reports will be posted to the Davis-Besse web page - select 'Davis-Besse' from the key topics list on the NRC web page and then go to the 'news and correspondence' link.

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