

April 24, 2002

PRELIMINARY NOTIFICATION OF EVENT OR UNUSUAL OCCURRENCE -- PNO-III-02-016A

This preliminary notification constitutes EARLY notice of events of POSSIBLE safety or public interest significance. The information is as initially received without verification or evaluation, and is basically all that is known by the Region III staff on this date.

<u>Facility</u>	<u>Licensee Emergency Classification</u>
Davis-Besse Nuclear Power Plant	<input type="checkbox"/> Notification of Unusual Event
FirstEnergy Corporation	<input type="checkbox"/> Alert
Oak Harbor, Ohio	<input type="checkbox"/> Site Area Emergency
Docket: 50-346	<input type="checkbox"/> General Emergency
	<input checked="" type="checkbox"/> Not Applicable

SUBJECT: DISCRETE RADIOACTIVE PARTICLES FOUND OUTSIDE THE RADIOLOGICALLY RESTRICTED AREA (UPDATE)

DESCRIPTION:

On March 22, 2002, radiation protection personnel at the Davis-Besse Nuclear Power Plant were notified by the Oconee Nuclear Power Station that discrete radioactive particles had been found on the clothing of a worker who was undergoing in-processing prior to beginning work at the plant. The worker had most recently worked at Davis-Besse.

The licensee's investigation subsequently was expanded to seven individuals who had worked at Davis-Besse performing steam generator work during the current outage. Surveys were conducted by and for the licensee in Florida, Georgia, Virginia, North Carolina, and Texas, as well as several locations in the vicinity of the Davis-Besse plant. These surveys included the clothing, residences, hotel rooms, and vehicles used by the seven individuals.

A total of approximately 18 items have been found during these surveys which contained radioactive particles. Thirteen particles were reported in Preliminary Notification III-02-016, issued April 16, including two particles found onsite and eleven found offsite. Five additional items were found during subsequent surveys that contained radioactive particles.

The particles are generally of fuel origin, containing niobium, zirconium, ruthenium, and cerium, although several particles contained corrosion or activation products like cobalt-60.

Workers at the Davis-Besse plant who have suspected intakes of radioactive material are routinely checked with a whole body counter to measure any possible uptake. The plant staff determined that the whole body counter had not been programmed to identify the predominant fission products that made up the particles - those originating in the fuel - but only to identify corrosion or activation products and certain fission products from the measurements. As a result, many fuel-related isotopes would not have been reported by the whole body counter. The licensee reanalyzed the whole body counter data for the seven individuals to search for fission products and found evidence of fission products, which the more limited earlier analysis did not show. Although it appears that the seven individuals are the only ones with possible fuel-related contamination, the licensee is evaluating other individuals as well.

All of the particles found were small - ranging from 2 to 80 nanocuries. The licensee's dose calculations indicate that the particles found would not represent a health threat to the workers or to the general public.

On April 18, NRC Region III (Chicago) began a special inspection of the circumstances surrounding the particles found offsite. State of Ohio personnel have accompanied the NRC inspectors. The inspectors monitored the licensee's offsite surveys in the Davis-Besse area and performed independent surveys as well. The inspection is continuing with emphasis on the causes of the radioactive particles being found offsite. The review includes the licensee's procedures and equipment for measuring contamination, and the practices used in surveying individuals and their clothing.

The State of Ohio will be informed of this updated information. The information in this preliminary notification has been reviewed with licensee management.

This information is current as of 10 a.m. on April 24, 2002.

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