

PHILADELPHIA ELECTRIC COMPANY

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SHIELDS L. DALTROFF
VICE PRESIDENT
ELECTRIC PRODUCTION

October 15, 1979

Re: Docket Nos.: 50-277
50-278

Inspection No.: 50-277/79-14
50-278/79-16

Mr. George H. Smith, Chief
Fuel Facility and Materials Safety Branch
U.S. Nuclear Regulatory Commission
Region I
631 Park Avenue
King of Prussia, PA 19406

Dear Mr. Smith:

Your letter of September 24, 1979, forwarded combined Inspection Reports 50-277/79-14 and 50-278/79-16 which were conducted on June 22, 1979. Appendix A to your letter addresses an item which did not appear to be in full compliance with Nuclear Regulatory Commission requirements. This item is categorized as an infraction and is restated below with our response.

Technical Specification 3.8.C.1 states, "The release rate of gross activity except for halogens and particulates with half lives longer than eight days shall not exceed:

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$$\frac{Q_s E}{0.24} + \frac{Q_{iv}}{2.0 \times 10^5} \text{ MPC}_i \leq 1$$

where:

Q_s = combined units 2 & 3 off gas stack release rate in Ci/sec

E = average γ energy of release in Mev.

Q_{iv} = combined units 2 & 3 release rate in Ci/sec from reactor building ventilation exhaust stack

MPC_i = as defined for radionuclide i in column 1, of Appendix B 10 CFR 20 assuming a 10 minute old off gas mixture.

Contrary to the above, on June 21, 1979, the release rate of gross activity, excluding halogens and particulates with half lives longer than eight days, exceeded the Technical Specification limit by a factor of 1.17 for a period of ten minutes.

Response

The gaseous release in excess of Technical Specification which occurred on June 21, 1979 was reported to the NRC as Licensee Event Report 3-79-20/1P. The prompt notification was telecopied to Mr. B. H. Grier, Office of Inspection and Enforcement on June 22, 1979. A followup report was provided on July 6, 1979. These two documents described the cause of the release and immediate corrective actions taken.

The Unit 3 reactor was removed from service due to the loss of the offgas recombiner system (mechanical compressor failed). Primary coolant pressure was reduced to approximately 500 psig while recovery operations were in progress. This depressurization of the primary coolant system following reactor shutdown introduced non-condensable fission product gases into the condenser. During the plant startup, the mechanical vacuum pump was used in accordance with normal startup procedures to obtain condenser vacuum. The use of the mechanical vacuum pump resulted in a gaseous release rate in excess of Technical Specification limits by transferring some of the gaseous fission product inventory in the condenser directly to the main stack. Upon indication of a rapid increase in the main stack release rate, the mechanical vacuum pump was immediately shutdown. Technical Specification release limits were exceeded for less than 10 minutes during this transient and the maximum site gaseous release rate was approximately 117% of the Technical Specification limit. Following the initial high release rate,

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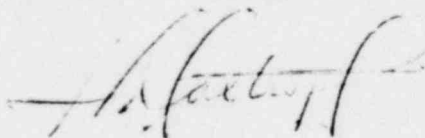
air was admitted into the condenser to provide dilution gas during the evacuation of the condenser air space. This permitted establishing a condenser vacuum without again exceeding Technical Specification limits. During this event, condenser pressure was always subatmospheric.

An investigation of this occurrence was performed as indicated in the July 6, 1979, Licensee Event Report 3-79-20/1T to determine whether procedural or equipment modifications were required to prevent recurrence. This investigation resulted in a special shutdown instruction to account for higher than normal offgas activities. During the recent Unit 3 end-of-cycle shutdown, the special shutdown instruction was successfully used to maintain condenser vacuum and release rates remained well below Technical Specification limits.

During the present refueling outage on Unit 3, all fuel assemblies being returned to the core have been sipped to locate and eliminate failed fuel elements.

The new shutdown procedure and the removal of the identified leaking fuel assemblies from the reactor should prevent recurrence.

Very truly yours,

A handwritten signature in cursive script, likely of the person who typed the letter, appearing below the closing.