

50-352



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

NOV 28 1985

The Honorable Richard Schulze
United States House of Representatives
Washington, D.C. 20515

Dear Congressman Schulze:

This refers to your letter to Mr. C. Kammerer, Nuclear Regulatory Commission (NRC), dated October 29, 1985, which included a letter from a Mr. R. Dobson, Jr., to yourself, dated October 14, 1985. In your letter you requested that the NRC review the concerns raised by Mr. Dobson and provide you a report of our findings. The NRC Region I office was assigned the responsibility to investigate Mr. Dobson's concerns. Results of that investigation follow.

Prior to receiving your letter, NRC Region I conducted an inspection to determine the circumstances surrounding the water spill incident, referred to in Mr. Dobson's letter, which occurred at Limerick Generating Station, Unit 1, on August 1, 1985. At the request of the NRC Senior Resident Inspector at Limerick, a Regional specialist inspector was sent to Limerick on August 6, 1985 to review this incident. It was determined that the cause of the water spill was a 3/4-inch open vent valve on drain piping from the Unit 1 liquid radwaste system's Equipment Drain Collection Tank. Details of this inspection were included as a matter of routine in the monthly NRC Senior Resident Inspector's report, NRC Region I Combined Inspection Report No. 50-352/85-30; 50-353/85-07 (Enclosure 1).

NRC Region I concluded that this incident was of minimal safety significance and did not constitute a basis that would require the licensee to shut down the reactor if indeed it had been operating. Furthermore, NRC Region I determined that this incident was not reportable, that is, it did not meet the notification criteria of any Emergency Class nor any non-Emergency event category as defined by the Code of Federal Regulations Title 10, Parts 50.72 and 50.73. However, the licensee did make a "courtesy call" to the NRC Region I office on August 2, 1985 to provide initial notification of the water spill. Dissemination of this information by Philadelphia Electric Company to the NRC is considered beyond that required by the Code of Federal Regulations.

In regard to Mr. Dobson's concern over Philadelphia Electric Company's (PECo) ability to safely operate Limerick, Unit 1, we have evaluated and continue to review PECO's performance as an operating licensee. Since granting PECO an operating license on October 26, 1984, we have not identified any incident(s) which could be conceived as a basis for concluding that PECO cannot safely operate Limerick, Unit 1. On the contrary, in this specific incident PECO's actions to contain the contaminated water, isolate the source of the leak, investigate additional potential sources and extent of contamination, process the contaminated water and decontaminate the sumps, review generic implications,

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and implement corrective and preventive actions were determined by NRC Region I to be timely, thorough and appropriate.

Regarding Mr. Dobson's concern that the plant was allowed to continue operation while contaminated water had not yet been cleaned up, we have determined that Limerick Unit 1 was shutdown at the time. However, had Unit 1 been operating, the licensee would not have been required to shut down the reactor as no license condition was exceeded, no regulation was violated, and nothing of safety significance was involved. The spilled water, which contained very low levels of contamination, was collected from the sumps and processed through the radwaste system. All water had been transferred to the radwaste system by the end of August 2, 1985. All sumps were then decontaminated. Although not required, the licensee posted the areas as Radiation Areas in order to minimize possible spreading of contamination. (See Enclosure 1 for further details.)

In regard to Mr. Dobson's concern over metal particles in the reactor coolant which would pick up and transfer excessive radiation to the cooling system and possibly the environment the only "particles" that could be construed as such are normally-occurring metal corrosion products in the reactor coolant. These are continuously removed by filtration and ion exchange systems in order to maintain the purity of the reactor coolant.

Whenever there are piping interfaces (for example, in a heat exchanger) involving the reactor coolant system and a secondary system whose discharge is to the environment, there exists the potential for leakage between the systems and into the environment. However, various design features have been built into Limerick, as well as all nuclear power plants, such that the potential for leakage into the environment is minimal and within regulatory requirements. These features include 1) secondary system isolation capability (both automatic and manual), 2) maintenance of a differential pressure such that leakage will be from the secondary system into the reactor coolant, 3) continuous-reading radiation monitors on the secondary system discharge lines which can annunciate alarms and initiate automatic actions and 4) leak testing of the reactor coolant pressure boundary to ensure a leak-tight system. These examples are not all-inclusive, and the specific design details can vary from plant to plant. However, the purpose of each remains the same -- to prevent the radioactive reactor coolant from reaching the environment.

Regarding Mr. Dobson's final concern, the NRC has been mandated the responsibility for protecting the radiological health and safety of the public and the environment, and assuring nuclear industry conformance to regulatory requirements. To accomplish this goal, we engage in major inspection efforts on a daily basis by assigning Resident Inspectors to each nuclear site and supplementing that effort with Regional Inspectors.

Any finding resulting from an inspection is evaluated in the context of the NRC enforcement policy (Code of Federal Regulations, Title 10, Part 2, Appendix C). This enforcement policy authorizes the NRC to issue notices of violations, civil penalties, and orders to those licensees who do not achieve the necessary attention to detail and the high standard of compliance which the NRC expects. However, each enforcement action is dependent on the circumstances of the case. The NRC has taken such enforcement action in the past and will continue to do so when necessary and within the bounds of our lawful authority.

I trust you will find this report sufficient for answering the concerns of your constituent.

Sincerely,

for (Signed) T. A. Rehm
William J. Dircks
Executive Director
for Operations

Enclosure:

NRC Region I Combined Inspection Report No. 50-352/85-30;
50-353/85-07, excerpt

RI:DRP	DRP	DRSS	DRP	REG ATTNY	DEP RA
Gallo/jc	Collins	T.Martin	Starostecki	Gutierrez	Allan
11/21/85	11/21/85	11/21/85	11/21/85	11/21/85	11/21/85
RA	EDQ	<i>och</i> <i>W</i>			
Murley	Dircks				
11/21/85	11/15/85				

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SECY 85-932

Docket No. 50-352

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
631 PARK AVENUE
KING OF PRUSSIA, PENNSYLVANIA 19406

OCT 21 1985

Docket Nos. 50-352
50-353

Philadelphia Electric Company
ATTN: Mr. Shields L. Daltroff
Vice President
Electric Production
2301 Market Street
Philadelphia, Pennsylvania 19101

Gentlemen:

Subject: Combined Inspection 50-352/85-30; 50-353/85-07

This refers to the routine resident safety inspection by Mr. E. M. Kelly on July 1 - September 22, 1985 at the Limerick Generating Station, Limerick, Pennsylvania. The inspection consisted of document reviews, interviews, and observation of activities, and the results have been discussed with Mr. G. M. Leitch of your staff.

No violations of NRC requirements were identified and no response is required.

In accordance with 10 CFR 2.790(a), a copy of this letter and the enclosures will be placed in the Public Document Room.

Your cooperation is appreciated.

Sincerely,

Samuel J. Collins
Samuel J. Collins, Chief
Projects Branch No. 2
Division of Reactor
Projects

Enclosure: NRC Region I Combined Report 50-352/85-30; 50-353/85-07

cc w/encl:

V. S. Boyer, Senior Vice President, Nuclear Power John
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G. Leitch, Station Superintendent
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Commonwealth of Pennsylvania

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U. S. NUCLEAR REGULATORY COMMISSION
REGION I

Report Nos. 85-30; 85-07

Docket Nos. 50-352; 50-353

License Nos. NPF-39; CPPR-107 Priority -- Category C;A

Licensee: Philadelphia Electric Company
2301 Market Street
Philadelphia, Pennsylvania 19101

Facility Name: Limerick Generating Station, Unit 1 & 2

Inspection Conducted: July 1 - September 22, 1985

Inspectors: E. M. Kelly, Senior Resident Inspector
J. E. Beall, Project Engineer
R. J. Bores, Technical Assistant
D. J. Florek, Lead Reactor Engineer
T. B. Silko, Reactor Engineer

Reviewed by: Robert M. Gallo for
J. E. Beall, Project Engineer

10/16/85
date

Approved by: Robert M. Gallo
R. M. Gallo, Chief,
Reactor Projects Section 2A
DRP

10/17/85
date

Inspection Summary: Combined Inspection Report for Inspection
Conducted July 1 - September 22, 1985 (Report Nos. 50-352/85-30;
50-353/85-07)

Areas Inspected: Routine and backshift inspections by the resident inspector and region-based inspectors of: activities associated with issuance of the full power operating license on August 8, 1985 and subsequent power ascension; followup on outstanding items and license conditions; plant tours; observation of startup testing and review of test procedures and results, maintenance and surveillance observations, and review of periodic reports. Also addressed are events that occurred during the reporting period which include: corrective action for cable tray penetration fire seal voids, contaminated water spill on August 1, a RWCU resin spill on September 7, and a reactor scram on September 11.

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Result: Three unresolved items were identified associated with: the potential third offsite 33 kV power source (Detail 2.3); overtime guidelines for shift personnel (Detail 3.4.3); and drywell temperature control (Detail 7.0). No violations were identified.

This inspection involved 274 hours of onsite inspection by the Senior Resident Inspector, the Limerick Project Engineer and other region-based inspectors.

The inspector observed both tests at the remote shutdown panel. The inspector monitored the pre-test briefings, operator communications, adherence to approved test procedures, and plant response to the imposed transients. Additional details are provided in Inspection Report No. 50-352/85-37.

No violations were identified.

5.4 Loss of Offsite Power Test

The licensee successfully completed the loss of offsite power test (STP 31.1) on September 16, 1985. The test was initiated from about 20% power and the unit scrammed about one minute later on low reactor water level. The level drop was caused by the loss of power to the condensate pumps which tripped the feed pumps on low suction pressure and caused a loss of feedwater flow to the reactor. All four unit diesel generators automatically started and powered vital loads as designed. HPCI initiated automatically 23 minutes into the test as reactor level continued to decrease. As level began to increase, HPCI was manually secured to prevent excessive reactor vessel cooldown, and the smaller RCIC turbine pump was manually started and used to restore level. The test was terminated as planned after 30 minutes with the reactor shutdown, vital loads on the diesels, and vessel level being controlled by RCIC.

The licensee had conducted extensive preparation for this test, including several hours of scenarios run on the site simulator with those shift and test personnel taking part in the test. The scenarios were not limited to the expected course of events, but included sequences of events containing failures of key components such as one or more diesels failing to auto start. The inspector monitored the pre-test briefings in the Control Room and noted that they were thorough and of high quality. The briefings were interdisciplinary in nature, included potential "what-if" scenario variants, and clearly outlined the announcements which would be made to abort the test prematurely and the major restorative actions. The importance of good communications was stressed, and exhibited, throughout the test. Additional details are provided in Inspection Report 50-352/85-37.

No violations were identified.

6.0 Event Followup

6.1 Contaminated Water Leak Into Unit 2

6.1.1 Description of Event

On August 1, 1985, at about 10:00 p.m., a security guard reported to licensee management the accumulation of water in a pit (Unit 2 Pipe Tunnel and Access Room) near the Unit

2 offgas holdup piping. The water level in the pit rose from about 1/2 inch to about 18 inches on August 2. Health physics personnel analyzed this water and found low levels of radioactive contamination. Approximately 4 E-6 micro-curies/cc of CO-58, and lesser levels of Co-60 and Cr-51 in some samples were found in water sampled from the Unit 2 Pipe Tunnel and Access Room, the location where the water accumulation was first noted. The highest concentrations were about 4% of the 10 CFR 20, Appendix B limits for unrestricted areas.

The licensee's investigation identified the source of the water as an open 3/4 inch manual vent valve on drain piping from the Unit 1 liquid radwaste system Equipment Drain Collection Tank. Liquid waste was being transferred from the Equipment Drain Collection Tank to the larger Equipment Drain Surge Tank to provide additional available tank capacity in the former. With the 3/4 inch manual vent valve V-2104 open, liquid was apparently siphoned from the Unit 1 Equipment Drain Surge Tank (through the piping) to the Unit 2 Pipe Tunnel and Access Room. The source was identified and isolated on August 2, 1985. Confirmation that the open valve and the Equipment Drain Surge Tank were the cause of the leakage was based on:

- the licensee's review of drawings;
- cessation of leakage after valve isolation;
- activity concentrations of comparable levels, and
- a slight downward trending in the Equipment Drain Surge Tank level after the completion of the transfer from the Equipment Drain Collection Tank.

6.1.2 Clean-up Activities

The licensee initiated timely actions to identify and isolate the source of the leakage, to sample all Unit 2 sumps (several others were found to contain low levels of contamination), and to begin the processing of the water (estimated at 10 to 20,000 gallons) through the radwaste processing system. The contamination in the other sumps was traced to either pumping from the Unit 2 Pipe Tunnel and Access Room or gravity flow from that area. No other sources were identified.

All Unit 2 sump water had been transferred to the radwaste system by the end of August 2, 1985. The sump walls and floors were monitored for contamination. The highest level of contamination was about 5000 dpm per 100 square centimeters in the Pipe Tunnel and Access Room. Most of the other sumps were about 300 dpm per 100 square centimeters. Since these are normally "Clean" sumps, all were being decontaminated. Although the contamination levels were low, the licensee posted the areas as Radioactivity Areas to minimize possible spreading of contamination.

The licensee's sampling program included all Unit 2 sumps, the settling pond (last hold-up point on site before discharge) and a low-point in the discharge hose from the Unit 2 Reactor Enclosure Floor Drain Sump. This sump has an automatic level control and therefore would automatically pump to the settling pond when the level rose past the trip point. No detectable activity was found in water samples taken from the discharge hose, nor from the settling pond. This would indicate that no contaminated water had been discharged to the settling pond. The licensee lifted the pump electrical leads of the Unit 2 Reactor Enclosure Floor Drain Sump to assure no discharge of slightly contaminated water from the sump could recur without appropriate processing.

6.1.3 Corrective/Preventive Activities

The licensee closed, locked and tagged valve V-2104, although it was not determined how or when this valve had been opened. Numerous previous waste water transfers from the Unit 1 Equipment Drain Collection Tank to the Equipment Drain Surge Tank had taken place with no identified leakage. Routine surveillance of all noncontaminated sumps and systems in response to IE Bulletin 80-10 was conducted as recently as July 18, 1985. No contamination had been found previously. The licensee indicated that V-2104 may have been overlooked in the valve lineup procedures because it was thought to be a Unit 1 valve, yet it does have a Unit 2 coding on the P & ID. Consequently, it was apparently omitted from the surveillance procedures from both units.

Valve V 2104 was incorporated into the valve lineup checkoff list on August 6 and also incorporated in the monthly surveillance procedure. In addition, the licensee has directed that, in the future, all Unit 2 sumps will be sampled and analyzed prior to transfer to Unit 1 for appropriate processing. Finally, the licensee has initiated a third independent review of all the Unit 1/Unit 2 interfaces in radwaste piping; this had been underway by the

Limerick Radwaste Coordinator, and was scheduled for completion by August 8, 1985. Two previous reviews of these interfaces had been conducted of this area; one by Bechtel and the other by PECO.

6.1.4 Summary

PECO Upset Report UR-012 dated August 2, 1985 was reviewed. The inspector noted that the actual radiological consequences of this event were insignificant, although the potential for more serious concerns existed. The licensee's actions to (1) contain the contaminated water, (2) isolate the source of the leak, (3) investigate additional sources and the extent of contamination, (4) process the contaminated water and decontaminate the sumps, (5) review generic implications and (6) implement corrective and preventive actions were timely, thorough and appropriate. The inspector had no further questions.

No violations were identified.

6.2 Contaminated Spill at Unit 1 Reactor Building, Elevation 313

On September 7, 1985, the licensee experienced a spill of a highly contaminated resin-water mixture at elevation 313 of the Unit 1 Reactor Building. The spill was caused by the failure of a RWCU demineralizer vent valve to close while valving the system on line. An area about 20 feet by 30 feet was contaminated to levels of about 800,000 dpm per 100 square centimeters; no personnel contamination occurred.

The inspector reviewed the radiological protection measures implemented by the licensee to cleanup the spill while limiting the potential for airborne contamination and personnel exposure. The initial steps by the licensee included tenting off the corridor surrounding the spill, frequent air sampling and use of respirators by cleanup personnel. The inspector reviewed the radiation work permit (RWP) and verified that the personnel involved in survey and cleanup activities were following RWP requirements. The licensee's approach was consistently conservative with respect to radiation protection measures from the discovery of the spill until the corridor area was released for general access. Additional review of this incident is provided in Inspection Report 50-352/85-28.

No violations were identified.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

EDO PRINCIPAL CORRESPONDENCE CONTROL

FROM:

²²
DUE: 11/20/85

EDO CONTROL: 001156

REP. DICK SCHULZE

DOC DT: 10/29/85

FINAL REPLY:

TO:

CARLTON KAMMERER

FOR SIGNATURE OF:

** GREEN **

SECY NO: 85-932

EXECUTIVE DIRECTOR

DESC:

ROUTING:

ENCLOSES LETTER FROM ROBERT G. DORSON RE INCIDENT
AT LIMERICK PLAN ON 8/1/85

DENTON
TAYLOR
GCUNNINGHAM

DATE: 11/05/85

ASSIGNED TO: RI

CONTACT: MURLEY

SPECIAL INSTRUCTIONS OR REMARKS:

CORRESPONDENCE CONTROL TICKET

Rep Dick Schulze

SECY NUMBER: 85-932

OFFICE OF THE SECRETARY

LOGGING DATE 11/4/85

ACTION OFFICE: EDO

AUTHOR: Rep Dick Schulze--Const Ref

AFFILIATION: Robert Dobson

LETTER DATE: 10/29/85

FILE CODE ID&R-5 Limerick

ADDRESSEE: OCA

SUBJECT: August 1st incident at the Limerick plant

ACTION: Direct Reply...Suspense: Nov 14

DISTRIBUTION: OCA to Ack

SPECIAL HANDLING: None

SIGNATURE DATE:

FOR THE COMMISSION Champ

Rec'd ON EDO
Date... 11-4-85
Time... 1:45 P

EDO --- 001156