



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

Docker files

23 JUL 1987

Mr. Marvin Lewis
7801 Roosevelt Boulevard #62
Philadelphia, Pennsylvania 19152

Dear Mr. Lewis:

I am responding to your question directed to Senator John Glenn regarding an allegation made concerning the Limerick Generating Station. The alleger stated that he had observed a ten inch long crack in the B recirculation system suction valve and that no corrective actions were taken.

The Nuclear Regulatory Commission, Region I, reviewed this allegation and found it to be unsubstantiated. A copy of the NRC letter to Philadelphia Electric Company dated May 29, 1984; their response dated June 18, 1984; the NRC inspection reports discussing this concern; and the allegation closeout letter dated August 28, 1984 are enclosed for your information.

Thank you for your interest. I am confident the documentation provided will resolve your question in this matter.

Sincerely,

William T. Russell
Regional Administrator

Enclosures: As stated

cc w/enclosures:

Mr. T. Hirsch
Office of Senator John Glenn
United States Senate
Washington, DC 20510

8708030375 870723
PDR ADCK 05000352
PDR

H

23 JUL 1987

Mr. Marvin Lewis

2

DISTRIBUTION w/enclosures

T. Murley

J. Murray

W. Russell

J. Allan

W. Kane

S. Collins

R. Gallo

J. Linville

E. Kelly

S. Varga

B. Boger

W. Butler

R. Clark

EDO 003022

Secy No. 87-836

Docket No. 50-352

Public Document Room

Local Public Document Room

EDO Reading File

Commonwealth of Pennsylvania

OCA



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

MAY 29 1984

Docket No. 50-352

Philadelphia Electric Company
ATTN: Mr. John S. Kemper
Vice President
Engineering and Research
2301 Market Street
Philadelphia, Pennsylvania 19101

Gentlemen:

This office has received an anonymous allegation which states that a circumferential crack about 10 inches long exists in the valve body of the B recirculation system pump suction valve. The alleged crack in the valve was noted by an individual while leaving the inside of the recirculation pipe following the removal of a sealing diaphragm which had been used as a seal for Argon purging of the pipe. The allogger indicated that: his concerns were identified to others, including a QC representative; a visual inspection was performed, and; no corrective action was taken, and the valve was closed up.

In order for us to make a determination whether or not a problem exists, we request that you provide us your evaluation in writing, within 20 days, identifying the records and/or actions taken which demonstrate that no unacceptable crack exists in the valve body. In the event that the records are not sufficient to support a conclusion, please describe your proposal to resolve this matter.

Upon completion of our review of your evaluation and subsequent inspection, as necessary, we will advise you of our determination.

Thank you for your cooperation in this matter.

Sincerely,

Richard W. Starostecki, Director
Division of Project and Resident
Programs

cc:
V. S. Boyer, Senior Vice President, Nuclear Power
Troy B. Conner, Jr., Esquire
Eugene J. Bradley, Esquire, Assistant General Counsel
Limerick Hearing Service List
Public Document Room (PDR)
Local Public Document Room (LPDR)
Nuclear Safety Information Center (NSIC)
NRC Resident Inspector
Commonwealth of Pennsylvania

~~046654109~~

PHILADELPHIA ELECTRIC COMPANY

2301 MARKET STREET

P.O. BOX 8699

PHILADELPHIA, PA. 19101

(215) 841-4504

JOSEPH W. GALLAGHER
MANAGER
ENGINEERING AND RESEARCH

JUN 18 1984

Mr. Thomas E. Murley, Director
United States Nuclear Regulatory Commission
Office of Inspection and Enforcement, Region I
631 Park Avenue
King of Prussia, PA 19406

Subject: USNRC IE Region Letter dated May 29, 1984
RE: Anonymous Allegation - Cracked Valve
Limerick Generating Station - Unit 1

File: GOVT 1-1 (Allegations)

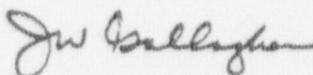
Dear Mr. Murley:

In response to the subject letter regarding an anonymous allegation stating that a crack existed in the valve body of the B recirculation system pump suction valve, we transmit herewith the following:

Attachment I - Response to Anonymous Allegation

Should you have any questions concerning this item, we would be pleased to discuss them with you.

Sincerely,



JPE/drd/840615/3

Attachment

Copy to: Director of Inspection and Enforcement
United States Nuclear Regulatory Commission
Washington, DC 20555

S. K. Chaudhary, USNRC Resident Inspector

~~8408470225~~

ATTACHMENT I

RESPONSE TO ANONYMOUS ALLEGATION

Anonymous Allegation:

"a circumferential crack about 10 inches long exists in the valve body of the "B" recirculation system pump suction valve. The alleged crack in the valve was noted by an individual while leaving the inside of the recirculation pipe following the removal of a sealing diaphragm which had been used as a seal for Argon purging of the pipe."

Response

Visual inspections of the inside diameter of this valve were performed on June 14, 1984 for the alleged crack. No such crack was found. The only thing that could possibly be what the allogger saw was an acceptable surface irregularity, not a crack, where the factory machined the area of the weld between the seat ring and valve body.

Further, there were several documented quality control inspections on the inside diameter of this valve during the installation with satisfactory results and no evidence of there having been a crack in the valve body.

The available Quality Control and Welding Engineers were questioned regarding the allogger's indication "his concerns were identified to others, including a QC representative. A visual inspection was performed and no corrective action was taken, and the valve was closed up". There was no recollection of such a conversation on the part of the Quality Control personnel or welding engineers.

COMMONWEALTH OF PENNSYLVANIA :
COUNTY OF PHILADELPHIA : ss.

JOSEPH W. GALLAGHER, being first duly sworn, deposes
and says:

That he is Manager, Engineering and Research Department of
Philadelphia Electric Company, the holder of Construction Permits
CPPR-106 and CPPR-107 for Limerick Generating Station, Units 1 and 2;
that he has read the foregoing Response to the Anonymous Allegation
regarding the recirculation pump suction valve ("B" loop) and knows
the contents thereof; and that the statements and matters set forth
therein are true and correct to the best of his knowledge, information
and belief.

Joseph W. Gallagher

Subscribed and sworn to
before me this 18th day
of June, 1984

Patricia D. Scholl
Notary Public

PATRICIA D. SCHOLL
Notary Public, Philadelphia, Philadelphia Co.
My Commission Expires February 10, 1986



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

Docket Nos. 50-352; 50-353

JUN 20 1984

Philadelphia Electric Company
ATTN: Mr. John S. Kemper
Vice President
Engineering and Research
2301 Market Street
Philadelphia, Pennsylvania 19101

Gentlemen:

Subject: Combined Inspection 50-352/84-24; 50-353/84-08

This refers to the routine resident and region-based safety inspection by Messrs. S.K. Chaudhary, J. T. Wiggins and J. Raval on May 1 - 31, 1984 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 Messrs. G. M. Leitch and J. M. Corcoran of your staff.

Apparent violations of NRC requirements are cited in Appendix A and categorized under the NRC Enforcement Policy, 10 CFR 2 Appendix C (49 FR 8583), March 8, 1984. A reply is required and should be prepared in accordance with Appendix A. It is exempt from the Office of Management and Budget's clearance procedures under the Paperwork Reduction Act of 1980, PL 96-511.

In accordance with 10 CFR 2.790(a), a copy of this letter and the enclosures will be placed in the NRC Public Document Room unless you notify this office, by telephone, within ten days of the date of this letter and submit written application to withhold information contained therein within thirty days of the date of this letter. Such application must be consistent with the requirements of 2.790(b)(1).

Your cooperation is appreciated.

Sincerely,

Richard W. Starostecki, Director
Division of Project and Resident
Programs

Enclosures:

1. Appendix A, Notice of Violation
2. NRC Region I Combined Report
50-352/84-24; 50-353/84-08

2407110030

JUN 20 1984

cc w/encl:

V. S. Boyer, Senior Vice President, Nuclear Power
Troy B. Conner, Jr., Esquire
Eugene J. Bradley, Esquire, Assistant General Counsel
Public Document Room (PDR)
Local Public Document Room (LPDR)
Nuclear Safety Information Center (NSIC)
NRC Resident Inspector
Commonwealth of Pennsylvania
Limerick Hearing Service List

bcc w/encl:

Region I Docket Room (with concurrences)
Senior Operations Officer (w/o encls)
J. Gutierrez, RI
DPRP Section Chief - E. Conner
Jane Grant, DPRP
L. Briggs
T. Martin, RI
S. Ebnetter, RI

U. S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 84-24
84-08
Docket No. 50-352
50-353
License No. CPPR-106 Priority - Category B
CPPR-107 A

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

Facility Name: Limerick Generating Station

Inspection At: Limerick, Pa.

Inspection Conducted: May 1 - 31, 1984

Inspectors: *J. Wiggins for*

S. K. Chaudhary, Senior Resident Inspector

6/4/84

date

J. Wiggins
J. T. Wiggins, Senior Resident Inspector

6/4/84

date

A. Vasela for
J. Raval, Reactor Engineer

6/15/84

date

Approved by: *E. L. Conner*

E. L. Conner, Chief, Reactor Projects
Section 3B

6/15/84

date

Inspection Summary: Combined Inspection Report for Inspection Conducted May 1 - 31, 1984. (Report Nos. 50-352/84-24; 50-353/84-08)

Areas Inspected: Routine inspections by the resident inspectors and a region-based inspector of: followup of previous inspection items (Units 1 and 2); preoperational test program implementation verification; preoperational test procedure review; preoperational test witnessing; current standby gas treatment system design; field-implemented electrical separation criteria; review of the main steam isolation valve leakage control system design, installation and system turnover; review of system startup engineers' requalification examination results; review of vane-axial fan ground; long-term equipment storage maintenance (Unit 2); and followup on Construction Deficiency Reports. The inspection involved 85 manhours for Unit 1 and 35 manhours for Unit 2.

Results: Two violations were identified: failure to adequately convey the design basis of a system from top-tier to lower-tier drawings (Paragraph 8, Unit 1); and, failure to adequately follow the long-term storage maintenance procedures for Unit 2 equipment (Paragraph 11). In addition, three significant unresolved items were identified. They are: (1) the acceptability of the licensee's current plan not to complete connection of the standby gas treatment system to the refueling zone until prior to the first refueling outage (Paragraph 6); (2) the acceptability of the revised field criteria for electrical separation (Paragraph 7); and, (3) the acceptability of the current main steam isolation valve leakage control system design (Paragraph 8).

84-7110-49

(Closed) Follow Item 50-352/84-10-02: Revision of FSAR to show status of the Unit 2 Residual Heat Removal Service Water (RHRSW) pumps. The inspector reviewed the disposition to Startup Field Report (SFR) 16A-7 which indicated that Licensing Document Change Notice #FS-484 had been issued to revise the FSAR to show the Unit 2 RHRSW pumps will receive power from Unit 2-related offsite power supplies.

(Closed) Follow Item 50-352/84-19-01: Resolution of NRC comments on preoperational test procedure, P59.3. The inspector reviewed Test Change Notice (TCN) 1 to P59.3 which incorporated into Appendix B of the procedure requirements to log the calibration dates for the drywell-to-Suppression Pool vacuum breaker position indicating switches. Test records indicate these calibrations were performed on 4/24/84.

(Closed) Unresolved Item 50-352/80-17-02: No criteria specified for cutting of rebar in block walls. Bechtel Engineering issued PFEM-1697 directing the field not to apply the criteria for cutting rebar in concrete walls to rebar cutting in block walls. Cut Reinforcing Steel Reports, as defined in Job Rule G-28, were reviewed for any cut rebar in Q-listed block walls. The bars that were cut without prior engineering approval were reported on NCR 4332. Civil Quality Control Engineers received training in this matter. Further, criteria for cutting rebar in block walls were issued in DCN 8 to drawing C-608, Revision 10.

In addition, the following items were administratively closed as a result and no further problems identified in the applicable program areas:

Follow Item 50-352/80-09-03

Follow Item 50-352/80-09-05

(Closed) Unresolved Item 50-353/79-06-01: Structural steel radial box beam end connections. This item was resolved for Unit 1 (79-06-02) in inspection report 50-352/81-16. The resolution equally applies to Unit 2 activities.

(Closed) Unresolved Item 50-353/78-06-01: ASME Code Nameplates may interfere with preservice and inservice inspection. This item was resolved for Unit 1 (78-10-01) in inspection report 50-352/81-10. The resolution equally applies to Unit 2.

3. Plant Tour

Periodically during this inspection period, the inspectors toured the Unit 1 containment, reactor enclosure, control room, diesel generator enclosures, the Unit 2 reactor enclosure and containment and the Spray Pond Pumphouse. The inspectors examined completed work and work in progress for indications of defective workmanship or nonconformance to project specifications. Special emphasis was placed on the involvement

of site quality control personnel. The inspectors reviewed applicable drawings, procedures and reports to assess the state of completion of the facility and the preoperational test program.

Specifically, the inspectors witnessed a portion of the installation of 5 drywell temperature elements and relocation of 2 others under the controls of Startup Work Order 60A-64. Additionally, the vendor data package, QC inspection records and vendor radiographs for the recirculation system suction valves were reviewed.

No violations were identified.

4. Preoperational Test Procedure Review and Verification

The inspector reviewed the below-listed preoperational test procedures to assure they were in conformance with the licensee's administrative instructions and to assure that the test procedures adequately fulfilled the test commitments provided in the FSAR and the SER. No comments resulted from this review.

Procedures reviewed:

P32.2 Control Room Isolation and Purge System
P3.1 E/F/G/H 13.2 KV Power

No violations were identified.

5. Preoperational Test Witnessing

The inspector witnessed portions of the following preoperational tests:

P4.1 4.16 KV Power
P24.1 Standby Diesel Generators

In each case, the inspector verified a copy of the approved test procedure was in use, test personnel were familiar with the test methods and procedures, results were adequately recorded and the system startup engineer was familiar with the requirements regarding test change notices and test exceptions.

For P24.1, the inspector witnessed one of the five required successive starts of the D diesel generator, conducted on 5/30, using starting air from only one air receiver. The diesel started successfully, however, it failed to stabilize within the required frequency band. The generator frequency overshoot upon startup and did not stabilize to less than 61.5 Hz in the required 10 seconds. The startup engineer indicated that this matter was under review by Bechtel Engineering and by the vendor. The tentative prescribed corrective action involves readjustment of the diesel governor. This action will be performed on all four diesels.

Bechtel Engineering is also reviewing the frequency band requirements to determine if the five completed starts of the D diesel generator should be declared unsuccessful and not counted toward the 23 sequential successful starts required by Regulatory Guide 1.108. The inspector will follow this matter.



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

AUG 02 1984

Docket Nos. 50-352; 50-353

Philadelphia Electric Company
ATTN: Mr. John S. Kemper
Vice President
Engineering and Research
2301 Market Street
Philadelphia, Pa 19101

Gentlemen:

Subject: Combined Inspection 50-352/84-26; 50-353/84-09

This refers to the routine resident safety inspection by Messrs. S. K. Chaudhary and J. T. Wiggins on June 1 - 30, 1984 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 Messrs. G.M. Leitch and J. M. Corcoran of your staff.

Apparent violations of NRC requirements are cited in Appendix A and categorized under the NRC Enforcement Policy, 10 CFR 2 Appendix C (49 FR 8583), March 8, 1984. A reply is required and should be prepared in accordance with Appendix A. It is exempt from the Office of Management and Budget's clearance procedures under the Paperwork Reduction Act of 1980, PL 96-511.

Because of NRC Region I's concerns regarding implementation of the preoperational test program for Unit 1, Region I management met with you, Mr. M. J. Cooney and Mr. G. M. Leitch on June 16, 1984. At this meeting, you described those actions which had been taken to strengthen the program. The actions you described were acceptable and appeared responsive to our concerns. We will continue to monitor your activities in this area.

In accordance with 10 CFR 2.790(a), a copy of this letter and the enclosures will be placed in the NRC Public Document Room unless you notify this office, by telephone, within ten days of the date of this letter and submit written application to withhold information contained therein within thirty days of the

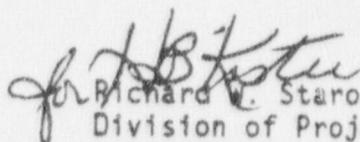
2408210368

AUG 02 1984

date of this letter. Such application must be consistent with the requirements of 2.790(b)(1).

Your cooperation is appreciated.

Sincerely,



Richard W. Starostecki, Director
Division of Project and Resident
Programs

Enclosures:

1. Appendix A, Notice of Violation
2. NRC Region I Combined Report 50-352/84-26; 50-353/84-09

cc w/encls:

V.S. Boyer, Senior Vice President, Nuclear Power
Troy B. Conner, Jr., Esquire
Eugene J. Bradley, Esquire, Assistance General Counsel
Public Document Room (PDR)
Local Public Document Room (LPDR)
Nuclear Safety Information Center (NSIC)
NRC Resident Inspector
Commonwealth of Pennsylvania
Limerick Hearing Service List

bcc w/encls:

Region I Docket Room (with concurrences)
Senior Operations Officer (w/o encls)
J. Gutierrez, RI
DPRP Section Chief
Jane Grant, DPRP
L. Briggs
T. Martin, RI
S. Ebnetter, RI

U. S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 84-26
84-09
Docket No: 50-352
50-353
License No. CPPR-106 Priority - Category B
CPPR-107 A
Licensee: Philadelphia Electric Company
2301 Market Street
Philadelphia, Pennsylvania 19101

Facility Name: Limerick Generating Station, Unit 1

Inspection at: Limerick, Pa.

Inspection Conducted: June 1 - 30, 1984

Inspectors: *S. K. Chaudhary* 7/11/84
S. K. Chaudhary, Senior Resident Inspector Date

T. Wiggins 7/9/84
T. Wiggins, Senior Resident Inspector Date

W. Baunack 7/13/84
W. Baunack, Project Engineer Date

S. Reynolds
S. Reynolds, Reactor Engineer Date

D. Vito 7/13/84
D. Vito, Reactor Engineer Date

Approved by: *Robert M. Gallo* 7/24/84
R. M. Gallo, Chief, Reactor Projects Date
Section 2A

Inspection Summary: Combined Inspection Report for Inspection Conducted June 1 - 30, 1984. (Report Nos. 50-352/84-26; 50-353/84-09)

Areas Inspected: Routine inspections by the resident inspectors and region-based inspectors of: followup on outstanding inspection items; followup on construction deficiency reports; TMI action plan followup; preoperational test procedure review and test witnessing; calibration of the primary containment vacuum relief valve position indication system; and recirculation valve indication. The inspection involved 135 hours for Unit 1, of which 28 hours were by the regional inspectors, and 5 hours for Unit 2.

Results: Two violations were identified: inadequate test program implementation (para. 6); inadequate calibration procedure (para. 7). In addition, an indication found in the B reactor recirculation pump suction valve was reviewed and found not to be a crack. The test program violation is particularly significant because of the current pace of preoperational activities and because of the importance to safety of the systems involved. Increased licensee attention to this matter is warranted.

8408216381

7. Calibration of the Primary Containment Vacuum Relief Valve Position Indication System

The inspector reviewed the calibration records for the primary containment vacuum relief (PCVR) position indicating switches. This review was to assure these switches were calibrated to the sensitivity required to demonstrate that the potential steam bypass of the suppression pool through a partially open vacuum relief would be adequately indicated to plant operators.

In its response to FSAR question 480.7, the licensee stated that valve opening is detectable at a disc lift of 0.06 inches or greater above the valve seat. If all eight vacuum relief valves (2 in series on each of 4 downcomers) were open 0.06 inches, the corresponding bypass leakage area would be less than the 0.05 ft² assumed in the containment analyses.

FSAR section 9.4.5 described the valve position indicators as sets of redundant, plunger-type switches with a differential travel of 0.004 inches. This differential travel, when multiplied through the mechanical linkage to the valve disc, would be attained if the valve disc travelled 0.06 inches off its seat.

Based on the above, the inspector sought to verify that the calibration procedure for the position switches was such that the 0.06 inch travel distance at time of switch actuation was verified. A review of calibration data on the switches, ZS-57-137A-1/A-2 through D-1/D-2 showed that the required sensitivity was not attained. The records indicated only the open/closed indications were tested and the exact actuation points for the open/closed switches were not recorded or adjusted.

The inspector informed the Startup Director and the Lead Results and Test Engineer that the calibration procedure used for these position switches was inadequate. Failure to provide an adequate calibration procedure for the PCVR position indicating switches violated 10 CFR 50 Appendix B, Criterion V requirements. (50-352/84-26-09)

8. Visual Indication on the Internal Surface of Reactor Recirculation Valve

The licensee identified internal surface indications in the reactor coolant recirculation system valve B32-1F023B.

In inspection report 50-352/84-24, the inspector documented the results of his review of the radiograph reader sheets and the accompanying vendor and receipt documents associated with the B reactor recirculation pump suction valve B32-1F023B. There were no problems identified in the documents reviewed.

In response to a 5/29/84 letter from NRC Region I, the licensee conducted a visual inspection of the valve internals. Access to the valve was gained by entry into the suction line 28" pump via the reactor vessel. As a result, the licensee identified a circumferential indication at the weld joint between the valve seat ring and the valve body casting.

A region-based inspector also reviewed the document package for the valve. The valve body is cast stainless steel SA351, grade DF8M and the seat ring is centrifugally cast SA351, grade 3A (with high ferrite). The seat ring was welded to the valve body with E308L filler metal and the SMAW process. Discussions with GE NEBO (San Jose) indicated the seat was hardfaced with the GTAW process. Available data showed that the filler metal was Stellite 6 meeting MIL-R-17131A, Type R Co-Cr-A. The hardfacing is approximately 3/32" thick with a minimum thickness determined by (dilution) hardness requirements. GE NEBO stated that the ring to body weld penetrant test was done with a water-washable technique. The location of the indication is consistent with the layout of the weld area and the junction of the joint level on the valve body side of the seat ring to valve body weld.

Representatives of GE, Bechtel, PECO and the NRC reviewed photographs of the indication. The conclusion of the review was that the cause of the indication was a lack of weld metal sufficient to "clean-up" the weld area during post-weld machining. The indication was not a crack and was of a configuration such that no stress concentration was to be expected. The stress applied in service for the valve body to seat ring weld was determined to be negligible and the weld is not part of the valve's pressure boundary. Further, the materials involved are notch insensitive and the indication (surface irregularities) would not have an adverse effect on the valve's performance.

The inspector visually examined another valve, B32-2F031B, which was identical to the valve with the indication. The inside weld face (reported by GE to be a 45° bevel on the valve body side and 20° bevel on the ring side) was observed with minor round visual indications that would pass a water-washable penetrant test.

The NRC inspector concurred with the technical findings of the licensee and had no further questions regarding this matter.

9. Unresolved Items

Unresolved items are matters about which more information is necessary to ascertain whether they are violations, deviations, or acceptable items. Unresolved items are discussed in paragraph 4 of this inspection report.

10. Meeting on Preoperational Test Program Implementation

On June 20, 1984, during a tour of the Limerick facility, Mr. R. W. Starostecki, Director, Division of Project and Resident Programs, Region I, met with Mr. G. M. Leitch to discuss NRC-perceived weaknesses in the licensee's implementation of the Unit 1 preoperational test program. These weaknesses were considered to have resulted in the violations identified during this and previous reporting periods. Special emphasis was placed on the extent of involvement in program activities by the permanent PECO station staff.

On June 26, 1984, Mr. J. S. Kemper, Vice President Engineering and Research and Mr. M. J. Cooney, Manager Nuclear Production met onsite with Mr. Starostecki and Mr. H. B. Kister, Chief, Projects Branch 2, to describe those actions taken to strengthen the program. These actions will be evaluated during future inspections.