

# REGULATOR INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8510230183. DOC. DATE: 85/10/17 NOTARIZED: NO DOCKET #  
 FACIL: 50-387 Susquehanna Steam Electric Station, Unit 1, Pennsylvania 05000387  
 AUTH. NAME AUTHOR AFFILIATION  
 KEISER, H.W. Pennsylvania Power & Light Co.  
 RECIP. NAME RECIPIENT AFFILIATION  
 BUTLER, W.R. Licensing Branch 2

SUBJECT: Forwards ASME code NIS-1 form re preservice exams & GE & Nuclear Energy Svcs preservice insp repts.

DISTRIBUTION CODE: A001D COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 6+1050  
 TITLE: OR Submittal: General Distribution

NOTES: 1cy NMSS/FCAF/PM. LPDR 2cys Transcripts. 05000387  
 OL: 07/17/82

*Appendices I-IV see Reports*

RECIPIENT		COPIES		RECIPIENT		COPIES	
ID	CODE/NAME	LTTR	ENCL	ID	CODE/NAME	LTTR	ENCL
NRR	LB2 BC	01	7				1*
INTERNAL:	ACRS	09	6	ADM/LFMB		1	
	ELD/HDS4		1	NRR/DE/MTEB		1	
	NRR/DL DIR		1	NRR/DL/ORAB		1	
	NRR/DL/TSRG		1	NRR/DSI/METB		1	
	NRR/DSI/RAB		1	REG FILE	04	1	1*
	RGN1		1				
EXTERNAL:	24X		1	EG&G BRUSKE/S		1	0
	LPDR	03	2	NRC PDR	02	1	1*
	NSIC	05	1				

NOTES: 3 3

*Limited Dist \* w/Encl.*

*6 Encls*



Pennsylvania Power & Light Company

Two North Ninth Street • Allentown, PA 18101 • 215 / 770-5151

Harold W. Keiser  
Vice President-Nuclear Operations  
215/770-7502

OCT 17 1985

Director of Nuclear Reactor Regulation  
Attention: Dr. W. R. Butler, Chief  
Licensing Branch No. 2  
Division of Licensing  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

SUSQUEHANNA STEAM ELECTRIC STATION  
UNIT #1 PSI NIS-1 FORM  
ER 100450 FILE 899  
PLA-2549

Docket No. 50-387

Dear Dr. Butler:

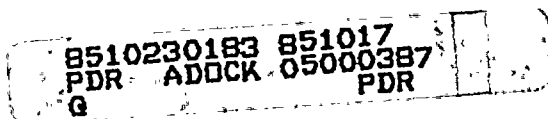
Attached for your information and use is the ASME Code NIS-1 form which covers the preservice examinations performed on Susquehanna SES Unit #1.

If you have any questions, please contact us.

Very truly yours,

H. W. Keiser  
Vice President-Nuclear Operations

cc: M. J. Campagnone USNRC  
R. H. Jacobs USNRC



A001  
11  
Printed  
Dist

## FORM NIS-1 OWNERS' DATA REPORT FOR Preservice INSPECTIONS

As required by the Provisions of the ASME Code Rules

1. Owner Pennsylvania Power and Light Company  
Two North Ninth Street, Allentown, PA 18101  
 (Name and Address of Owner)
2. Plant Susquehanna Steam Electric Station, Unit #1  
P.O. Box 467, Berwick, PA 18603  
 (Name and Address of Plant)
3. Plant Unit #1 4. Owner Certificate of Authorization (if required) N/A  
 Construction
5. Permit                      Date 11/73 6. National Board Number for Unit N/A
7. Components Inspected (See Pages 2, 3 of 4)

Component or Appurtenance	Manufacturer or Installer	Manufacturer or Installer Serial No.	State or Province No.	National Board No.
Reactor Pressure Vessel	CB&I/General Electric	B5023	B111230	#3686
(1S-401)				

Note: Supplemental sheets in form of lists, sketches, or drawings may be used provided (1) size is 8½ in. x 11 in., (2) information in items 1 through 6 on this data report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-1 (back)

8. Examination Dates 1976 to 1983 9. Inspection Interval from N/A ~~xx~~

10. Abstract of Examinations. Include a list of examinations and a statement concerning status of work required for current interval. (See Pages 3, 4 of 4)

11. Abstract of Conditions Noted. (See Pages 3, 4 of 4)

12. Abstract of Corrective Measures Recommended and Taken

We certify that the statements made in this report are correct and the examinations and corrective measures taken conform to the rules of the ASME Code, Section XI.

Date July 1 19 85 Signed Alan P. Miller By \_\_\_\_\_  
Owner

Certificate of Authorization No. (if applicable) \_\_\_\_\_ Expiration Date \_\_\_\_\_

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State or Province of Pennsylvania and employed by Phila. Mfgs. Mut. Ins. Co. of Phila., PA have inspected the components described in this Owners' Data Report during the period 11/29/1976 to 4/6/83, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owners' Data Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owners' Data Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date JULY 9 19 85

William R. Rogers III  
Inspector's Signature

Commissions

Factory Mutual System  
NB7980 PA 2204

National Board, State, Province and No.

FORM NIS-1 (back)

8. Examination Dates 1976 to 1983 9. Inspection Interval from N/A ~~xx~~

10. Abstract of Examinations. Include a list of examinations and a statement concerning status of work required for current interval. (See Pages 3, 4 of 4)

11. Abstract of Conditions Noted. (See Pages 3, 4 of 4)

12. Abstract of Corrective Measures Recommended and Taken

We certify that the statements made in this report are correct and the examinations and corrective measures taken conform to the rules of the ASME Code, Section XI.

Date July 1 19 85 Signed Allen D. Miller By \_\_\_\_\_  
Owner

Certificate of Authorization No. (if applicable) \_\_\_\_\_ Expiration Date \_\_\_\_\_

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State or Province of Pennsylvania and employed by Phila. Mfgs. Mut. Ins. Co. of Phila., PA have inspected the components described in this Owners' Data Report during the period 11/29/1976 to 4/6/83, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owners' Data Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owners' Data Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date JULY 9 19 85

William R. Rogers III  
Inspector's Signature

Commissions

Factory Mutual System  
NB7980 PA 2204

National Board, State, Province and No.

FORM NIS - 1

OWNER: Pennsylvania Power & Light Co. (PP&L)  
2 North Ninth Street  
Allentown, PA 18101

PLANT: Susquehanna Steam Electric Station (SSES) Unit #1  
P.O. Box 467, Berwick, PA 18603

Preservice examinations were performed on the Susquehanna Steam Electric Station, Unit #1 Reactor Pressure Vessel and Associated Class 1, 2 and 3 piping and components from 1976 to 1983. These examinations comply with the applicable requirements set forth in 10CFR50 and Section XI of the ASME Boiler and Pressure Vessel Code. The applicable editions and addenda, as utilized by PP&L are as outlined below:

#### Reactor Pressure Vessel

ASME Section XI 1974 Edition to the Winter 1975 Addenda.

#### Piping and Components

ASME Section XI 1974 Edition to the Summer 1975 Addenda, including Appendix III from the Winter 1975 Addenda, as modified to include ASME Section XI 1977 Edition to the Summer 1978 Addenda to determine the extent and method of examination for Code Categories BG-1, BG-2, BK-1, CC, CD and CE-1.

#### COMPONENTS INSPECTED

The required preservice examinations have been performed on components (including supports) within the following systems:

<u>SYSTEM</u>	<u>INSTALLER*</u>	<u>N5 SYSTEM NUMBER</u>
Containment Atmosphere Control	Bechtel Power Corporation	1-73A
Control Rod Drive	Bechtel Power Corporation	1-55B
Core Spray	Bechtel Power Corporation	1-51A
Diesel Generators	Bechtel Power Corporation	0-24A
Emergency Service Water	Bechtel Power Corporation	0-54A
Feedwater	Bechtel Power Corporation	1-45A
Fuel Pool Cooling and Clean Up	Bechtel Power Corporation	1-35B
High Pressure Core Injection	Bechtel Power Corporation	1-52B,C

FORM NIS - 1

OWNER: Pennsylvania Power & Light Co. (PP&L)  
 2 North Ninth Street  
 Allentown, PA 18101

PLANT: Susquehanna Steam Electric Station (SSES) Unit #1  
 P.O. Box 467, Berwick, PA 18603

COMPONENTS INSPECTED (Continued)

<u>SYSTEM</u>	<u>INSTALLER*</u>	<u>N5 SYSTEM NUMBER</u>
Main Steam	Bechtel Power Corporation	1-83A,B,D,
MSIV Leakage Control	Bechtel Power Corporation	1-83H
Nuclear Boiler	Bechtel Power Corporation	1-62A
Reactor Building Closed Cooling Water	Bechtel Power Corporation	1-14A
Reactor Core Isolation Cooling	Bechtel Power Corporation	1-50B,C
Reactor Pressure Vessel	Bechtel Power Corporation	1-62A
Reactor Recirculation	Bechtel Power Corporation	1-64A,B
Reactor Water Clean-Up	Bechtel Power Corporation	1-61B
Residual Heat Removal	Bechtel Power Corporation	1-49A,B,D,E,F,G
RHR Service Water	Bechtel Power Corporation	1-16A
Standby Liquid Control	Bechtel Power Corporation	1-53A

\*Bechtel Power Corporation Certificate of Authorization N881-2

ABSTRACT OF EXAMINATIONS

Portions of the following listed documents form a part of this report, and are found as Appendix I and II, respectively;

- I. Pre-service Examination Final Report of Reactor Pressure Vessel, National Board Number 3686, Susquehanna Steam Electric Station, Unit 1, Pennsylvania Power and Light Company, Contract Number 8856-M-166, prepared by General Electric Company, A&ES0 (formally I&SE)
- II. Susquehanna Steam Electric Station, Unit No. 1, Preservice Inspection Final Report, prepared by Nuclear Energy Services, Document #80A2804, Revision 8.

FORM NIS - 1

OWNER: Pennsylvania Power & Light Co. (PP&L)  
2 North Ninth Street  
Allentown, PA 18101

PLANT: Susquehanna Steam Electric Station (SSES) Unit #1  
P.O. Box 467, Berwick, PA 18603

---

These documents contain a complete listing of all the affected systems and individual components inspected. Details of examinations performed and results are also provided.

#### RELIEF REQUESTS

Pursuant to 10CFR Part 50, Section 50.55a(a)(2), the Nuclear Regulatory Commission has granted, at PP&L's request, relief from Code Requirements that have been determined to be impractical [such that implementation would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety].

Supporting documentation relative to the SSES Unit #1 relief requests is found in Appendix III.

#### REPAIRS, REPLACEMENTS, AND MODIFICATIONS

Attached as Appendix IV to this document are the Owner's "Report of Repairs and/or Modifications" (used prior to the availability of the NIS-2 Form) and Form NIS-2 Owner's Report for Repairs or Replacements for ASME Code Section XI Repairs and Replacements on Unit #1.

mts/rpg037i:del



# Safety Evaluation Report

related to the operation of  
Susquehanna Steam Electric Station,  
Units 1 and 2

Docket Nos. 50-387 and 50-388

Pennsylvania Power & Light Company  
Allegheny Electric Cooperative, Inc.

U.S. Nuclear Regulatory  
Commission

Office of Nuclear Reactor Regulation

JULY 1982



Docket #50-387
Control #8510230183
Date 10/17/85 of Document
REGULATORY DOCKET FILE



## 5 REACTOR COOLANT PRESSURE BOUNDARY

### 5.2 Integrity of the Reactor Coolant Pressure Boundary

#### 5.2.4 Inservice Inspection and Testing\*

General Design Criterion 32, "Inspection of Reactor Coolant Pressure Boundary," requires, in part, that components which are part of the reactor coolant pressure boundary be designed to permit periodic inspection and testing of important areas and features to assess their structural and leaktight integrity. To ensure that no deleterious defects develop during service, selected welds and weld heat-affected-zones will be inspected periodically at Susquehanna. The design of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code) Class 1 and 2 components of the reactor coolant pressure boundary in Susquehanna incorporates provisions for access for inservice examination in accordance with Section XI of the ASME Code. Methods have been developed to facilitate the remote examination of these areas of the reactor vessel not readily accessible to examination personnel.

Section 50.55a(g) of 10 CFR 50 defines the detailed requirements for the preservice and inservice inspection programs for light-water-cooled nuclear power facility components. Based upon the construction permit date of November 2, 1973, this section of the regulations requires that a preservice inspection program be developed and implemented using at least the Edition and Addenda of Section XI of the ASME Code in effect 6 months prior to the date of issuance of the construction permit.

Also, the initial inservice inspection program must comply with the requirements of the latest Edition and Addenda of Section XI of the ASME Code in effect 12 months prior to the date of issuance of the operating license, subject to the limitations and modifications listed in Section 50.55a(b) of 10 CFR Part 50.

##### 5.2.4.1 Evaluation of Compliance of Unit No.1 With 10 CFR 50.55a(g)

A preservice inspection program for Unit 1 based on the 1974 Edition through the Summer 1975 Addenda of Section XI of the ASME Code was submitted by the applicant. Specific written relief from the ASME Code requirements was requested and a supporting technical justification was provided. We have determined that certain American Society of Mechanical Engineers Code Section XI examination requirements defined in 10 CFR 50.55a(g)(2) are impractical.

The staff has evaluated the ASME Code-required examinations that have been determined to be impractical and, pursuant to 10 CFR 50.55a(a)(2), have allowed relief from the requirements that have been determined to be impractical and that if implemented would result in hardships or unusual difficulties without a

---

\*This section was prepared with the technical assistance of DOE contractors from the Pacific Northwest Laboratories.)



compensating increase in the level of quality and safety. Based on the granting of relief from these preservice examination requirements, the staff concludes that the preservice inspection program for Unit 1 is in compliance with 10 CFR 50.55a(g)(2). The staff's detailed evaluation supporting this conclusion is provided in Appendix H to this report.

The initial inservice inspection program for Unit 1 will be evaluated after the applicable ASME Code Edition and Addenda can be determined based on 10 CFR 50.55a(b) and before the first refueling outage when inservice inspections will be performed.

The conduct of periodic inspections and hydrostatic testing of pressure-retaining components of the reactor coolant pressure boundary in accordance with the requirements of Section XI of the ASME Code and 10 CFR 50 will provide reasonable assurance that evidence of structural degradation or loss of leak-tight integrity occurring during service will be detected in time to permit corrective action before the safety functions of the components are compromised. Compliance with the inservice inspections required by Section XI of the ASME Code and 10 CFR 50 constitutes an acceptable basis for satisfying the inspection requirements of GDC 32.

will be filed by about August 15, 1982. In the interim the staff concludes that the issuance of the license for power levels up to 5% rated power would not lead to undue risk to the health and safety of the public pending resolution as discussed above.

### 6.2.3 Containment Isolation

#### Control Rod Drive Insert and Withdrawal Lines

Both the CRD insert and withdrawal lines are provided with normally closed, fail-closed, solenoid-operated directional control valves, which open only during routine movement of their associated control rod. The normally closed, fail-open air-operated scram inlet and exhaust valves open only when required to effect a rapid reactor shutdown (scram). In addition, manual shutoff valves are provided for positive isolation in the unlikely event of a pipe break within a hydraulic control unit. (These units and the valves described above are located outside containment to satisfy testing, inspection, and maintenance requirements.) In addition, each CRD insert line is provided with an automatically actuated ball check valve inside containment. The staff finds that the system design represents a departure from the explicit requirements of General Design Criteria (GDC). However, in accordance with the provisions of Appendix A to 10 CFR 50 and GDC 55 which permits departure from its explicit requirement, the staff finds that the CRD containment isolation provision stated above is acceptable on the basis stated in NUREG-0803, "Safety Evaluation Report Regarding Integrity of BWR Scram Systems," dated August 1981.

### 6.6 Inservice Inspection of Class 2 and 3 Components\*

GDC 36, "Inspection of Emergency Core Cooling Systems"; GDC 39, "Inspection of Containment Heat Removal Systems"; GDC 42, "Inspection of Containment Atmosphere Cleanup Systems"; and GDC 45, "Inspection of Cooling Water System" (Appendix A of 10 CFR 50) require in part, that the subject systems be designed to permit appropriate periodic inspection of important components to ensure system integrity and capability.

Section 50.55a(g), 10 CFR 50 defines the detailed requirements for the preservice and inservice inspection programs for light-water-cooled nuclear power facility components. Based upon a construction permit date of November 2, 1973, this section of the regulation requires that a preservice inspection program be developed for Class 2 components and be implemented using at least the Edition and Addenda of Section XI of the ASME Code in effect 6 months prior to the date of issuance of the construction permit. Also, the initial inservice inspection program must comply with the requirements of the latest Edition and Addenda of Section XI of the ASME Code in effect 12 months prior to the date of issuance of the operating license, subject to the limitations and modifications listed in 10 CFR 50.55a(b).

#### 6.6.2 Evaluation of Compliance of Unit 1 With 10 CFR 50.55a(g)

A preservice inspection program for Susquehanna Unit 1, based on the 1974 Edition through the Summer 1975 Addenda of Section XI of the ASME Code was

---

\*This section was prepared with the technical assistance of DOE contractors from the Pacific Northwest Laboratories.

submitted by the applicant. Specific written relief from ASME Code requirements was requested and a supporting technical justification was provided. The staff has determined that certain ASME Code Section XI examination requirements defined in 10 CFR 50.55a(g)(2) are impractical.

The staff has evaluated the ASME Code-required examinations that have been determined to be impractical and, pursuant to 10 CFR 50.55a(a)(2), have allowed relief from the requirements that have been determined to be impractical and that if implemented would result in hardships or unusual difficulties without a compensating increase in the level of quality and safety. Based on the granting of relief from these preservice examination requirements the staff concludes that the preservice inspection program for Unit 1 is in compliance with 10 CFR 50.55a(g)(2). The staff's detailed evaluation supporting this conclusion is provided in Appendix H to this report.

The initial inservice inspection program for Susquehanna Unit 1 will be evaluated after the applicable ASME Code Edition and Addenda can be determined based on 10 CFR 50.55a(b) and before the first refueling outage when inservice inspections will be performed.

Compliance with the inservice inspections required by the Section XI of ASME Code and 10 CFR 50 constitutes an acceptable basis for satisfying applicable requirements of GDC 36, 39, 42, and 45.

## APPENDIX H\*

### REVIEW OF THE PRESERVICE INSPECTION PROGRAM FOR SUSQUEHANNA UNIT 1

#### H.1 INTRODUCTION

For nuclear power facilities whose construction permits were issued on or after January 1, 1971, but before July 1, 1974, 10 CFR 50.55a(g)(2) specifies that components shall meet the preservice examination requirements set forth in Editions of Section XI of the ASME Code in effect 6 months prior to the date of issuance of the construction permit. The provisions of 10 CFR 50.55a(g)(2) also state that the components (including supports) may meet the requirements set forth in subsequent Editions and Addenda of this Code which are incorporated by reference in 10 CFR 50.55a(b) subject to the limitations and modifications listed therein.

On January 27, 1981, May 19, 1981, June 11, 1981, June 16, 1981, and April 2, 1982, Pennsylvania Power and Light Company (the applicant) submitted the preservice inspection program and supporting information for Susquehanna Unit 1 based on the 1974 Edition through Summer 1975 Addenda of the ASME Code. Specific written relief from Code requirements was requested and supported by information pursuant to 10 CFR 50.55a(a)(2)(i). Therefore, the staff's evaluation consisted of reviewing the applicant's submittal to the requirements of the 1974 Edition of Section XI through Summer 1975 Addenda and determining if relief from the Code requirements were justified.

As a result of its review of this information, the staff has determined that certain preservice examinations are impractical and performing these required examinations would result in hardships or unusual difficulties without compensating increase in the level of quality and safety. The basis for this conclusion is discussed in the subsequent paragraphs of this appendix.

#### H.2 TECHNICAL REVIEW CONSIDERATIONS

A. The construction permit for Susquehanna Unit 1 was issued on November 2, 1973. In accordance with 10 CFR 50.55a(g)(2), components (including supports), which were classified as ASME Code Class 1 and 2, must be designed and provided with access to enable the performance of required inservice and preservice examinations set forth in the 1971 Edition of ASME Section XI, including the Addenda through Summer 1972. The ASME first published rules for inservice inspection in the 1970 Edition of Section XI. No preservice or inservice inspection requirements existed before that date. Since the plant system design and ordering of long lead time components were well under way by the time Section XI rules became effective, full compliance with the exact Section XI access and inspectability requirements of the Code were not always practical. The applicant optionally revised the preservice program based on

---

\*This Appendix was prepared with the technical assistance of DOE contractors from the Pacific Northwest Laboratories.



the requirements of the 1974 Edition through Summer 1975 Addenda in consideration of the updating requirements of 10 CFR 50.55a(g) for inservice inspection.

B. Verification of as-built structural integrity of the primary pressure boundary is not dependent on the Section XI preservice examination. The applicable construction codes to which the Susquehanna Unit 1 primary pressure boundary was fabricated contain examination and testing requirements which by themselves provide the necessary assurance that the pressure boundary components are capable of performing safely under all operating conditions reviewed in the FSAR and described in the plant design specification. As a part of these examinations, all of the primary pressure boundary full penetration welds were volumetrically inspected (radiographed) and the system was subjected to hydrostatic pressure tests.

C. The intent of the preservice examination is to establish a reference or baseline prior to the initial operation of the facility. The results of subsequent inservice examinations can then be compared with the original condition to determine if changes have occurred. If review of the inservice inspection results shows no change from the original condition, no action is required. In the case where baseline data are not available, all indications must be treated as new indications and evaluated accordingly. Section XI of the ASME Code contains acceptance standards which may be used as the basis for evaluating the acceptability of such indications.

D. Other benefits of the preservice examination include providing redundant or alternative volumetric inspection of the primary pressure boundary using a test method different from that employed during the component fabrication. Successful performance of preservice examination also demonstrates that the welds so examined are capable of subsequent inservice examination using a similar test method.

In the case of Susquehanna Unit 1, a large portion of the preservice examination required by the ASME Code was performed. The staff has concluded that failure to perform a 100% preservice examination of the welds identified below will not significantly affect the assurance of the initial structural integrity.

E. In some instances where the required preservice examinations were not performed to the full extent specified by the applicable ASME Code, the staff will require that these or supplemental examinations be conducted as part of the inservice inspection program. The staff has concluded that requiring these supplemental examinations to be performed at this time (before plant startup) would result in hardships or unusual difficulties without a compensating increase in the level of quality and safety. The performance of supplemental examinations, such as surface examinations, in areas where volumetric inspection is difficult will be more meaningful after a period of operation. Acceptable preoperational integrity has already been established by similar Section III (ASME Code) fabrication examinations.

In cases where parts of the required examination areas cannot be effectively examined because of a combination of component design or current inspection technique limitations, the staff will continue to evaluate the development of new or improved volumetric examination techniques. As improvements in these

areas are achieved, the staff will require that these new techniques be made a part of the inservice examination requirements for those components or welds which received a limited preservice examination.

### H.3 EVALUATION OF RELIEF REQUESTS

The applicant requested relief from specific preservice inspection requirements for Susquehanna Unit 1 in the preservice inspection program initially submitted on May 19, 1981, and subsequently revised.

The applicant also asked to use the requirements of subsequent editions and addenda of the Code which the staff has evaluated and found acceptable. These requests are identified in Section F which follows.

Evaluation of the remaining relief requests is summarized below. (Unless otherwise stated, references to the Code refer to the ASME Code, Section XI, 1974 Edition, including Addenda through Summer 1975.)

Based on the information submitted by the applicant and the staff's review of the design, geometry, and materials of construction of the components, certain preservice requirements of the ASME Boiler and Pressure Vessel Code, Section XI have been determined to be impractical; imposing these requirements would result in hardships or unusual difficulties without a compensating increase in the level of quality and safety. Therefore, pursuant to 10 CFR 50.55a(a)(2), the staff's conclusions that these preservice requirements are impractical are justified as follows:

#### H.3.1 All Class 1 and Class 2 Piping Systems Requiring Ultrasonic Examination as the Method of Examination (Relief Request #1)

##### Code Requirement

Ultrasonic examination shall be conducted in accordance with the provisions of Appendix I (Section XI, ASME Code). Where Appendix I (I-2000) is not applicable, the provisions of Article 5 of Section V (ASME Code) shall apply.

##### Code Relief Request

The applicant asked to use Appendix III of Section XI from the Winter 1975 Addenda in lieu of ASME Section V, Article 5 for piping examination.

##### Reason for Request

Appendix III, 1977 Edition to the Summer 1978 Addenda has been accepted for use by incorporation of this Edition and Addenda into 10 CFR 50.55a. Appendix III, Winter 1975 Addenda closely parallels the later Code except that the required examination volume is more conservative in the Winter 1975 Addenda (i.e., Figure IWB-3514.1(a) of Winter 1975 versus Figure IWB-2500-8 of the 1977 Edition).

##### Staff Evaluation

ASME Code Section XI, Summer 1975 Addenda does not specifically provide volumetric inspection methods for welds in piping, but references Article 5 of

Section V. The provisions of 1975 Section V do not specifically address piping welds either, nor do they stipulate recording levels for ultrasonic flaw indications. Appendix III of Section XI gives specific guidance for ultrasonic examination of piping systems. However, recording criteria for ultrasonic indications differ between Appendix III and Article 5 of Section V which requires that all indications exceeding 20% of the reference level be investigated. The applicant's procedures require that indications exceeding 50% of the reference level be recorded. Recording and evaluating indications that exceed 20% but less than 50% (distance amplitude correction) DAC is difficult for the following reasons:

- (a) the welded joints in nuclear piping frequently contain Code-allowable wall thickness differences (12% of nominal thickness) as well as weld drop-through, counterbore taper, crown height, and other surface conditions which generate a large number of geometric reflectors which produce UT (ultrasonic testing) indications greater than 20% DAC.
- (b) Weld metal in stainless steel piping contains reflectors due to the metallurgical structure which produce a large number of UT indications.

The staff has determined that Appendix III of Section XI is an acceptable alternative because it is technically acceptable and is also referenced in 10 CFR 50.55a(b). Based upon the fabrication examination required by Section III, the staff concluded that recording level of 50% is acceptable for the preservice inspection. However, for the inservice inspection, the staff has determined that recording at a 50% level is acceptable with the following conditions:

- (a) All indications 50% DAC or greater shall be recorded.
- (b) All indications 100% DAC or greater shall be investigated by a Level II or Level III examiner to the extent necessary to determine the shape, identity and location of the reflector.
- (c) Any cracklike indication, 20% DAC or greater, discovered during a UT examination of piping welds and base metal materials shall be recorded and investigated by a Level II or Level III examiner to the extent necessary to determine the shape, identity, and location of the reflector. The applicant should take appropriate action concerning all reflectors that are not metallurgical or geometric in origin.

#### H.3.2 Class 1 Examination Category B-J and Class 2 Examination Categories C-F and C-G Circumferential Butt Welds (Relief Request #4, #5, and #6)

##### Code Requirement

##### Examination Category B-J

The examination areas shall include essentially 100% of the longitudinal and circumferential welds and the base metal for one wall thickness beyond the edge of the weld. Longitudinal welds shall be examined for at least 1 ft from the intersection with the edge of the circumferential weld selected for examination. In the case of pipe branch connections, the areas shall include the weld metal, the base metal for one pipe wall thickness beyond the edge of the weld on the main pipe run, and at least 2 in. of the base metal along the branch run.

## Examination Categories C-F and C-G

Volumetric examination of circumferential butt welds, longitudinal weld joints in welded fittings, and branch connections exceeding 4-in. diameter including the weld metal and base metal for one wall thickness by a sampling procedures defined by IWC-2520.

### Code Relief Request

Relief was requested from performing 100% of the Code-required examination.

### Reason for Request

Relief is requested from the ASME Code Section XI examination requirements on the basis of partial inaccessibility of the weld and required volume due to plant design. The applicant has identified the piping system welds that are impractical to examine in Table H.1. The applicant has described in his submit-  
tals the fabrication examination performed on each weld and the safety signi-  
ficance of not performing the Section XI required examination.

### Staff Evaluation

The staff has determined that examination of the welds in Tables H.1 to the extent required by the Code is impractical because of the design of the piping system and/or location of piping hangers and supports. The applicant conducted surface examinations on those areas which cannot be completely scanned by the ultrasonic inspection. The staff concludes that the limited Section XI examina-  
tions, the volumetric examinations performed during fabrication, and the hydro-  
static test demonstrate an acceptable level of preservice structural integrity.

## H.3.3 Reactor Pressure Vessel Examination (Relief Request #7)

### Code Requirement

Perform an ultrasonic examination of the reactor pressure vessel in accordance with Appendix I, "Ultrasonic Examination" contained in the 1974 Edition of Section XI including Addenda through Summer 1975.

### Code Relief Request

Relief was requested to use the examination requirements stated in the 1974 Edition through Winter 1975 Addenda of Section XI.

### Reason for Request

Use of the Winter 1975 Edition of ASME Section XI for reactor pressure vessel examination is justified for the following reasons:

- (a) The major differences applicable to the reactor pressure vessel between the Summer 1975 Addenda and the Winter 1975 Addenda are:
  - (1) Table IWB-2500 Examination Category B-A revision; however, for preservice examination, this change has no impact.

- (2) Acceptance standards were added and/or changed; however, all changes were more conservative.
  - (3) Changes were made to Appendix I; however, primary changes were made to correct typographical errors or to provide clarification.
  - (4) Personnel qualification requirements were expanded and were made more conservative (IWA-2300).
- (b) Areas forming the basis for not accepting the use of Winter 1975 Addenda are not applicable to Susquehanna Unit 1 RPV preservice examination.

#### Staff Evaluation

The staff has evaluated the differences between the Winter 1975 Addenda and Summer 1975 Addenda of Section XI. Staff evaluation has shown that there are no significant technical changes in examination requirements between the subject Code Addenda. Therefore, the staff has determined that an ultrasonic examination of the reactor vessel based on Appendix I in the Winter 1975 Addenda is an acceptable alternative to the ASME Code requirement defined in 10 CFR 50.55a(g)(2).

#### H.3.4 Reactor Pressure Vessel Head Meridional Weld Seams DA, DB, DC, DD, DE, and DF (Relief Request #8)

#### Code Requirement

Examination Category B-A of ASME Section XI, 1974 Edition to Winter 1975 Addenda requires volumetric examination of essentially 100% of the accessible length of each meridional weld in vessel heads.

Appendix I, Article I-5000, requires the examinations be conducted using two beam angles from each direction (nominal angle of 45 degrees and 60 degrees).

These examinations must be performed completely as a preservice examination requirement prior to initial plant startup.

#### Code Relief Request

Relief was requested from performing 100% of the Section XI examination requirements.

#### Reason for Request

Interference from the vessel skirt attachment weld buildup results in the unexamined volumes as follows:

0° Base Metal Exam	12% Missed
0° Weld Metal Exam	12% Missed
45° Exam	4% Missed
60° Exam	2% Missed

Physical limitations because of the geometry of the reactor vessel result in the above unexamined volumes for the subject welds. The applicant's documentation shows the following:

- (a) A composite of all examination angles shows that a volume equal to 2% of the required examination volumes for welds DA, DB, DC, DD, DE, and DF are completely unexamined. All other areas have been covered by any or all of the 0°, 45°, and 60° scans.
- (b) The integrity of the welds has been verified by ultrasonic and magnetic particle testing during fabrication.
- (c) Welds are visually examined for leakage during RPV hydrotest.

#### Staff Evaluation

The meridional welds in the vessel head are physically inaccessible for inspection because of the existing design. The staff concludes that the limited Section XI volumetric examination, the volumetric and surface examination performed during fabrication, and the hydrostatic test demonstrate an acceptable level of preservice structural integrity.

#### H.3.5 Feedwater Inlet Nozzles N4A and N4D (Relief Request #9)

##### Code Requirement

Examination Category B-D requires a 100% preservice volumetric examination of the nozzle-to-vessel weld and adjacent areas of nozzle-to-vessel weld.

##### Code Relief Request

Relief was requested from performing 100% of the ultrasonic examination requirements.

##### Reason for Request

The proximity of nozzles N11A and B to the subject feedwater nozzles precludes complete examination of weld seams N4A and N4D as follows:

###### N4A

- 300° - completely examined (automatic)
- 60° - not examined because of interference from nozzle N11A.

###### N4D

- 300° - completely examined (automatic)
- 60° - not examined due to interference from nozzle N11B.

Spacing of only 4.5 in. between the nozzles allows only a best effort manual examination of the affected areas. The applicant documentation shows the following:

- (a) The excluded area is 16.67% of the weld seam; 83.33% has been completely examined.

100-  
100-  
100-  
100-  
100-  
100-

100-

100-

- (b) Four nozzles of the same configuration and service (N4B, N4C, N4E, and N4F) have been completely examined.
- (c) The integrity of welds has been verified by ultrasonic and magnetic particle examination during fabrication.
- (d) All N4 nozzle-to-vessel welds were liquid penetrant tested following RPV hydrotest and accepted.

#### Staff Evaluation

Physical limitations because of the design of the reactor vessel (i.e., location of nozzles N11A and B) result in the above unexamined volumes for the subject welds. The staff concludes that the limited Section XI volumetric examination, the volumetric and surface examinations performed during fabrication, and the hydrostatic test demonstrate an acceptable level of preservice structural integrity.

#### H.3.6 Additional Relief Requests

In addition to the relief requests evaluated in Section H.3, Parts A through E, the applicant submitted two other requests for relief which involved updating examination requirements to subsequent approved Editions and Addenda of Section XI. The staff has determined that the following relief requests are acceptable and in accordance with subsequent editions of Section XI referenced by 10 CFR 50.55a(b):

Relief request identification	Examination category	Component
2	B-G-1, B-G-2, and C-D	Bolting
3	B-K-1, C-E-1	Welded supports

#### H.4 CONCLUSION

Based on the foregoing, the staff has determined, pursuant to 10 CFR 50.55a(a)(2), that certain Section XI required preservice examinations are impractical, and compliance with the requirements would result in hardships or unusual difficulties without a compensating increase in the level of quality and safety.

The technical evaluation has not identified any practical method by which the existing Susquehanna Unit 1 can meet all the specific preservice inspection requirements of Section XI of the ASME Code. To require exacting compliance with Section XI would delay the startup of the plant in order to redesign a significant number of plant systems, obtain sufficient replacement components, install the new components, and repeat the preservice examination of these components. Examples of components that would require redesign to meet the specific preservice examination provisions are the reactor vessel, residual heat removal pumps, and a significant number of the piping and component



support systems. Even after the redesign effort, complete compliance with the preservice examination requirements probably could not be achieved. However, the as-built structural integrity of the existing primary pressure boundary has already been established by the construction code fabrication examinations.

Based on its review and evaluation, the staff concludes that the public interest is not served by imposing certain provisions of Section XI of the ASME Code that have been determined to be impractical. Pursuant to 10 CFR 50.55(a)(2), the staff has allowed deviations from these requirements which are impractical to implement and would result in hardship or unusual difficulties without a compensating increase in the level of quality and safety.

Table H.1 Piping system welds that are impractical to examine

Weld identification number	Code category and item number	System	Configuration	Nature of obstruction	% of scan obstructed
HBB-101-1-FW-7	CG C2.1	RCIC	Pipe to sparger	Piping located in the wetwell	100
HBB-101-1-1A	CG C2.1	RCIC	Pipe to reducing elbow	Piping located in the wetwell	100
HBB-101-1-1B	CG C2.1	RCIC	Pipe to elbow	Piping located in the wetwell	100
HBB-101-1-FW6	CG C2.1	RCIC	Flued head to pipe	Piping located in the wetwell	100
HBB-108-2-3A	CG C2.1	HPCI	Pipe to elbow	Piping located in the wetwell	100
HBB-108-2-FW10	CG C2.1	HPCI	Elbow to reducer	Piping located in the wetwell	100
HBB-108-2-FW7	CG C2.1	HPCI	Reducer to penetration	Piping located in the wetwell	100
HBB-108-2-FW1	CG C2.1	HPCI	Pipe to elbow	Piping located in the wetwell	100
DCA-108-1-1B	BJ B4.5	RHR	Longitudinal weld	Welded hanger	100
DCA-108-1-1C	BJ B4.5	RHR	Longitudinal weld	Welded hanger	100
DCA-108-1-FW2	BJ B4.5	RHR	Valve to pipe	Welded hanger	100
DCA-110-1-FW11	BJ B4.5	RHR	Valve to tee	Part geometry	100
DCA-110-2-FW11	BJ B4.5	RHR	Valve to tee	Part geometry	100
DCA-107-1-FW3	BJ B4.5	Core spray	Valve to valve	Part geometry	100
DCA-107-2-FW7	BJ B4.5	Core spray	Valve to valve	Part geometry	100
OBB-115-1-FW13	CF C2.1	RHR	Valve to valve	Part geometry	100
G8B-105-1-FW1	CF C2.1	RHR	Valve to reducer	Part geometry	100
DCA-110-1-FW2	BJ B4.5	RHR	Valve to flued head	Part geometry	100



Table H.1 (Continued)

Weld identification number	Code category and item number	System	Configuration	Nature of obstruction	% of scan obstructed (approximate)
DCA-110-2-FW2	BJ B4.5	RHR	Valve to flued head	Part geometry	100
DCA-108-1-FW10	BJ B4.5	RHR	Valve to reducer	Part geometry	100
GBB-108-1-FW4	BJ B4.5	RHR	Valve to reducer	Part geometry	100
VRR-B31-1-FWA24	BJ B4.5	Recirculation	Valve to pipe	Part geometry	100
VRR-B31-FWB24	BJ B4.5	Recirculation	Valve to pipe	Part geometry	100
DBB-114-1-9E	CF C2.1	HPCI	Pipe to cap	2 weldolets	16
DBB-115-1-7F	CF C2.1	RHR	Pipe to cap	1 weldolet	8
DBB-115-1-5D	CF C2.1	RHR	Pipe to cap	1 weldolet	16
DBB-115-1-5G	CF C2.1	RHR	Pipe to cap	3 weldolets	34
HBB-110-2-3C	CF C2.1	RHR	Elbow to tee	Instrumentation nozzle	3
DLA-104-1-FW1	BJ B4.5	Feedwater	Pipe to valve	Permanent hanger	50
DLA-102-1-FW7	BJ B4.5	Feedwater	Pipe to valve	Permanent hanger	50
HBB-111-2-3D	CF C2.1	RHR	Pipe to elbow	Hanger saddle weld	13
DBB-118-1-1A	CF C2.3	Feedwater	Sweepolet to pipe	Hanger lug attachment weld	6
GBB-106-1-FW6	CF C2.1	RHR	Pipe to elbow	Welded hanger	20
GBB-109-1-2A	CG C2.1	RHR	Pipe to elbow	Hanger saddle	5
VRR-B31-2-9G	BJ B4.5	Recirculation	Longitudinal weld	Pipe whip restraint	7

NUREG-0776  
Supplement No. 4

---

---

# **Safety Evaluation Report**

related to the operation of  
**Susquehanna Steam Electric Station,  
Units 1 and 2**

Docket Nos. 50-387 and 50-388

Pennsylvania Power & Light Company  
Allegheny Electric Cooperative, Inc.

---

---

**U.S. Nuclear Regulatory  
Commission**

Office of Nuclear Reactor Regulation

November 1982



## 5 REACTOR COOLANT PRESSURE BOUNDARY

### 5.2 Integrity of the Reactor Coolant Pressure Boundary

#### 5.2.4 Inservice Inspection and Testing

GDC-32, "Inspection of Reactor Coolant Pressure Boundary," requires, in part, that components that are part of the reactor coolant pressure boundary be designed to permit periodic inspection and testing of important areas and features to assess their structural and leaktight integrity. To ensure that no deleterious defects develop during service, selected welds and weld-heat-affected zones will be inspected periodically at Susquehanna. In letters dated January 27, 1981, May 19, 1981, June 11, 1981, June 16, 1981, and April 2, 1982, the Pennsylvania Power & Light Company submitted the preservice inspection program and supporting information for Susquehanna Unit 1 based on the 1974 Edition through Summer 1975 Addenda of the ASME Code. Specific written relief from Code requirements was requested and supported by information pursuant to 10 CFR 50.55a(a)(2)(i). NRC staff evaluation of these submittals was reported in Appendix H of Supplement 3.

In a letter dated August 17, 1982, the licensee requested relief from one additional Code requirement and provided a supporting technical justification. The staff has evaluated the ASME Code required examinations that the licensee determined to be impractical and, pursuant to 10 CFR 50.55a(a)(2), it has allowed relief from the impractical requirements, which, if implemented, would result in hardships or unusual difficulties without a compensating increase in the level of quality and safety. The staff has evaluated the licensee's submittal of August 17, 1982 in Appendix K.

Based on the granting of relief from these preservice examination requirements, the staff concludes that the preservice inspection for program Unit 1 complies with 10 CFR 50.55a(g)(2).

## APPENDIX K

### REVIEW OF THE PRESERVICE INSPECTION PROGRAM RELIEF REQUEST #14

#### K.1 INTRODUCTION

This evaluation is Amendment 1 to the initial staff review reported in Appendix H ("Review of the Preservice Inspection Program for Susquehanna Unit 1") of Supplement 3 of NUREG-0776. In a letter dated August 17, 1982, the licensee requested relief from another ASME Code preservice examination requirement that he determined to be impractical and provided a supporting technical justification pursuant to 10 CFR 50.55a(a)(2)(i). The staff review of the information in this letter is discussed in the following paragraphs.

#### K.2 EVALUATION OF RELIEF REQUEST

The licensee requested relief from specific preservice inspection requirements because of limitations to the ultrasonic examination of certain recirculation system pipe welds to which a corrosion-resistant cladding was applied in response to NUREG-0313, Revision 1. On the basis of the information submitted by the licensee in a letter dated August 17, 1982 and the staff's review of the design, geometry, and materials of construction of the components, the staff has determined that certain preservice requirements of ASME Code, Section XI, are impractical and imposing these requirements would result in hardships or unusual difficulties without a compensating increase in the level of quality and safety. Therefore, pursuant to 10 CFR 50.55a(a)(2), the staff's conclusions that these preservice requirements are impractical are justified as follows.

##### K.2.1 ASME Code Class 1 Recirculation System Pipe Welds (Relief Request #14)

###### Code Requirement

Examination Category BJ - Table IWB-2600, Item Number B4.5 - Section XI of the ASME Code, 1974 Edition to Summer 1975 Addenda requires that volumetric examination of 100% of the circumferential welds be performed completely as a preservice examination requirement before initial plant startup.

Section XI, Appendix III, Winter 1975 Addenda, requires that an angle-beam examination of the weld and required volume ( $\frac{1}{2}$  t or 1 in., whichever is less) be performed and that scanning be both normal and parallel to the weld.

###### Code Relief Request

Relief was requested from performing 100% of the Code-required examination.

### Basis for Request

A complete ultrasonic examination using state-of-the-art ultrasonic techniques cannot be performed in areas of the examination volume because of metallurgic and geometric restraints. No alternative nondestructive examination (NDE) methods are currently available to perform these inspections. The licensee has identified the piping system welds that are impractical to examine in Table K-1.

The licensee justifies the request for relief as follows:

- (1) The preservice integrity of the subject welds and corrosion-resistant clad area has been established by means of extensive inprocess NDE and satisfaction of ASME Code, Section III requirements.
- (2) The obstructed areas are on the recirculation riser pipe sides of the joint where the use of corrosion-resistant cladding, conforming to NUREG-0313, is the accepted method to minimize susceptibility to intergranular stress-corrosion cracking.
- (3) The heat-affected zone on the sweepolet/reducer side of the joint does not conform to NUREG-0313 and requires future augmented inservice inspections. This area can be examined from the fitting side of the joint and is, therefore, not obstructed by metallurgic or geometric restraints. A preservice examination has been completed in this area.
- (4) A complete examination of the weld and required volume on the riser side of the joint has been performed by scanning 45° circumferentially (i.e., parallel with the weld).
- (5) Visual examination of the weld during system pressure testing will be performed to detect evidence of leakage.
- (6) The leak-detection-system design conforms to NUREG-0313.
- (7) A complete preservice examination has been performed on weld VRR-B31-2-FWB13. This weld can be routinely examined as a representative weld during the inservice inspection program to ensure that the structural integrity of the system is not compromised by unanticipated generic degradation.

In addition to the examinations performed to date, the licensee has committed to the following:

- (1) Pennsylvania Power & Light Company (PP&L) will continue to monitor state-of-the-art techniques for their applicability to this inspection.
- (2) For inservice inspection purposes, the joints will be inspected by automated ultrasonic techniques; that is, a track mechanism with ultrasonic scanning capability will be mounted on the pipe for the riser-side inspection. The ultrasonic cathode-ray-tube screen presentation will be continuously recorded by means of videotape or other permanent method. Subsequent scans will be compared with the original scan to determine the relative change in status of the welds. Final equipment design for greater accessibility is expected to be complete in January 1983.



## Staff Evaluation

The staff has determined that examination of the welds listed in Table K-1 to the extent required by the Code is impractical because of the design of the piping system and the limitations to the interpretation of ultrasonic examination results resulting from the metallurgic characteristics of the specific welds. In addition to the radiography performed during fabrication, the licensee performed supplemental radiography after the limitations to ultrasonic examinations were identified. The staff concludes that the limited Section XI examinations, the volumetric examinations performed during fabrication, the supplemental radiography, and the hydrostatic test demonstrate an acceptable level of preservice structural integrity. The staff also finds the alternative provisions proposed by the licensee to improve the ultrasonic examination during inservice inspection acceptable.

### K.3 CONCLUSION

On the basis of the foregoing considerations, the staff has determined, pursuant to 10 CFR 50.55a(a)(2), that certain preservice examinations required by Section XI are impractical and that compliance with the requirements would result in hardships or unusual difficulties without a compensating increase in the level of quality and safety.

The technical evaluation has not identified any practical method by which the existing Susquehanna Unit 1 can meet all the specific preservice inspection requirements of Section XI of the ASME Code. To require exact compliance with Section XI would delay the startup of the plant in order to redesign the recirculation system, obtain sufficient replacement components, install the new components, and repeat the preservice examination of these components. Even after the redesign effort, complete compliance with the preservice examination requirements probably could not be achieved. However, the as-built structural integrity of the existing primary pressure boundary has already been established by the construction code fabrication examinations.

On the basis of its review and evaluation, the staff concludes that the public interest is not served by imposing certain provisions of Section XI of the ASME Code that have been determined to be impractical. Pursuant to 10 CFR 50.55a(a)(2), the staff has allowed deviations from these requirements, which are impractical to implement and would result in hardship or unusual difficulties without a compensating increase in the level of quality and safety.

### K.4 REFERENCES

American Society of Mechanical Engineers, "Boiler and Pressure Vessel Code" (ASME Code), Section III.

---, Section XI.

---, Section XI, Appendix III, Winter 1975 Addenda.

---, Section XI, 1974 Edition to Summer Addenda.

U.S. Nuclear Regulatory Commission, NUREG-0313, "Technical Report on Material Selection and Processing Guidelines for BWR Coolant Pressure Boundary Piping," Revision 1, Oct. 1979.

---, 0776, "Safety Evaluation Report Related to the Operation of Susquehanna Steam Electric Station, Units 1 and 2," Supplement 3, July 1982.

Table K-1 Piping System Welds that are impractical to examine

Configuration and weld identification number	Scan obstructed	Nature of obstruction	% of scan obstructed
<u>Riser to sweepolet</u>			
VRR-B31-1-FWA10	0°, 70° scan from the sweepolet side	Fitting configuration	7
	45° axial scan from riser side	Metallurgic and geometric conditions	100 <sup>a</sup>
	0° scan from the riser side	Fitting-to-pipe transition	8
VRR-B31-1-FWA11	0°, 70° scan from the sweepolet side	Fitting configuration	7
	45° axial scan from the riser side	Metallurgic and geometric conditions	100
	0° scan from the riser side	Fitting-to-pipe transition	8
VRR-B31-1-FWA13	0°, 70° scan from the sweepolet side	Fitting configuration	7
	45° axial scan from the riser side	Metallurgic and geometric conditions	100

See footnotes at end of table.

Table K-1 (Continued)

Configuration and weld identification number	Scan obstructed	Nature of obstruction	% of scan obstructed
<u>Riser to sweepolet (cont.)</u>			
VRR-B31-1-FWA13	0° scan from the riser side	Fitting-to-pipe transition	8
VRR-B31-1-FWA14	0°, 70° scan from the sweepolet side	Fitting configuration	7
	45° axial scan from the riser side	Metallurgic and geometric conditions	100 <sup>b</sup>
	0° scan from the riser side	Fitting-to-pipe transition	8
VRR-B311-1-FWB10	0°, 70° scan from the sweepolet side	Fitting configuration	7
	45° axial scan from the riser side	Metallurgic and geometric conditions	100 <sup>c</sup>
	0° scan from the riser side	Fitting-to-pipe transition	8
VRR-B31-1-FWB11	0°, 70° scan from the sweepolet side	Fitting configuration	7
	45° axial scan from the riser side	Metallurgic and geometric conditions	100

See footnotes at end of table.

Table K-1 (Continued)

Configuration and weld identification number	Scan obstructed	Nature of obstruction	% of scan obstructed
<u>Riser to sweepolet (cont.)</u>			
VRR-B31-1-FWB11	0° side from the riser side	Fitting-to-pipe transition	8
VRR-B31-1-FWB14	0°, 70° scan from the sweepolet side	Fitting configuration	7
	45° axial scan from the riser side	Metallurgic and geometric conditions	50 <sup>d</sup>
	0° scan from the riser side	Fitting-to-pipe transition	8
<u>Riser to reducer</u>			
VRR-B31-1-FWA12	45° axial scan from the riser side	Metallurgic and geometric conditions	60 <sup>e</sup>
	0° scan from the riser side	Fitting-to-pipe transition	8
VRR-B31-2-FWB12	45° axial scan from the riser side	Metallurgic and geometric conditions	60 <sup>e</sup>
	0° scan from the riser side	Fitting-to-pipe transition	8

See footnotes at end of table.

Table K-1 (Continued)

Configuration and weld identification number	Scan obstructed	Nature of obstruction	% of scan obstructed
<u>Riser to nozzle safe ends</u>			
VRR-B31-1-FWA15	45° axial scan from the riser side	Outside-diameter contour	8 <sup>f</sup>
VRR-B31-1-FWA16			
VRR-B31-1-FWA17			
VRR-B31-1-FWA18			
VRR-B31-1-FWA19			
VRR-B31-2-FWB15	45° axial scan from the riser side	Inside-diameter geometry	g
VRR-B31-2-FWB16			
VRR-B31-2-FWB17			
VRR-B31-2-FWB18			
VRR-B31-2-FWB19			

<sup>a</sup>Examination completed. Numerous indications evaluated and attributed to inside-diameter geometry. One indication unresolved.

<sup>b</sup>Outside-diameter-contour conditions caused transducer contact difficulties making indications unresolvable.

<sup>c</sup>Examination completed; however, numerous indications required extensive evaluation time.

<sup>d</sup>Examination unresolvable, scanning toward the weld. Examination completed, scanning away from the weld.

<sup>e</sup>Indications too extensive to evaluate for an area 3 in. back from the fitting-to-pipe transition by 360°.

<sup>f</sup>Outside-diameter-contour conditions cause a loss of transducer contact for 0.5 in. by 360°.

<sup>g</sup>Examination completed. Numerous indications evaluated and attributed to inside-diameter geometry.

APPENDIX IV : REPAIRS, REPLACEMENTS, AND MODIFICATIONS

COMPONENT IDENTIFICATION/ PP&L ID#	SYSTEM	JOB#	DATE
RHR Heat Exchanger 1E-205A	RHR		4/9/79
RHR Heat Exchanger 1E-205B	RHR		8/30/79
Feedwater Nozzle Safe Ends N4A-F	FW		6/7/79
Reactor Recirculation Inlet Nozzle Safe Ends N2-A-H,J,K	RR		1/31/80
RPV-Unauthorized Hanger Attachment 1S-401	RPV		8/11/80
Control Rod Drive Return Line	CRD		9/19/80
Core Spray Line bracket	CS		7/24/81
Reactor Recirculation Pump 1P-401 A,B	RR	8856-FCI-M-220	5/9/83
Reactor Recirculation Piping VRR-B31-1	RR	8856-FCI-M-231	7/5/83
Snubber DBB-126-H10	MS	WA#S-33919	4/7/83
Snubber DBB-123-H12	MS	WA#S-33919	4/8/83
Snubber DBB-124-H11	MS	WA#S-33919	4/8/83
Snubber DCA-144-H2076	RR	WA#S-33790	4/15/83
Snubber DCA-119-H2015	RR	WA#S-33790	4/15/83
Snubber HCC-138-H2001	Containment Instrument Gas	WA#S-33802	4/19/83
Snubber DCB-101-H2013	Standby Liquid Control	WA#S-33798	4/19/83
Snubber GBC-101-H262	MS	WA#S-34089	5/5/83
Valve#XV-1F004B	RR	WA#S-25997	10/29/82



COMPONENT IDENTIFICATION/  
PP&L ID#

SYSTEM

JOB#

DATE

Support SP-DBA-112-H34	RPV	WA#S-34123	5/5/83
Snubber GBC-101-H242	MS	WA#S-34117	5/5/83
Pump 1P221A	RWCU	WA#S-33692	4/14/83
Main Steam Piping			
DBB-101-1			
DBB-102-1			
DBB-103-1	MS	8856-FCI-M-211	7/5/83
DBB-104-1			
DBB-105-1			
Weld GBC-101-15-1VWAR2	MS	WA#S-25344	8/10/82
HCB pipe	Containment Atmosphere Control	Weld Traveler #73-82-001	9/16/82
Weld DBB-102-1-FW10R1	MS	WA#S-26478	10/23/82
Snubber DBB-107-H8	RHR	WA#S33416	2/23/83
Support DBB-107-H5	RHR	WA#S-33425	2/23/83
Support DBB-107-H3	RHR	WA#S-33426	2/23/83
Support DBB-107-H10	RHR	WA#S-33427	2/23/83
Support DBB-107-H7	RHR	WA#S-33427	2/23/83
Valve HV144F104	RWCU	WA#S-33830	4/11/83
HV-1F017A Valve Disc	RHR	WA#U-24356	4/23/83
HV-1F017B Valve Disc	RHR	WA#U-24386	5/3/83
Valve PSV-22643	Cont Inst Gas	WA#S-24926	8/5/82
Valve PSV-22648	Cont Inst Gas	WA#S-24926	8/10/82

REPORT OF REPAIRS AND/OR MODIFICATIONS

PENNSYLVANIA POWER & LIGHT COMPANY  
TWO NORTH NINTH STREET  
ALLENTOWN, PENNSYLVANIA 18101

SUSQUEHANNA STEAM ELECTRIC STATION  
PENNSYLVANIA POWER & LIGHT COMPANY  
POST OFFICE BOX 467  
BERWICK, PA 18606

COMPONENT: Residual Heat

Removal Heat Exchanger

#1E-205-A

SUSQUEHANNA SES UNIT: One

SCHEDULED COMMERCIAL DATE: 6-30-83

REPAIRS COMPLETION DATE: 4-9-79

## REPORT OF REPAIRS AND/OR MODIFICATIONS

1. OWNER: Pennsylvania Power & Light Company  
Two North Ninth Street  
Allentown, Pennsylvania 18101
2. PLANT: Susquehanna Steam Electric Station \_\_\_\_\_
3. PLANT UNIT: One \_\_\_\_\_
4. OWNER CERTIFICATION OF AUTHORIZATION NUMBER: OWN-131 \_\_\_\_\_  
EXPIRATION DATE: October 15, 1982 \_\_\_\_\_
5. COMPONENT NAME: Residual Heat Removal Heat Exchanger 1E-205-A \_\_\_\_\_  
MANUFACTURER: M.L.W. Industries \_\_\_\_\_  
SERIAL NUMBER: 10638-Q \_\_\_\_\_  
NATIONAL BOARD NUMBER: 121 \_\_\_\_\_
6. DESCRIPTION OF REPAIR AND/OR MODIFICATION: Modification: Addition of Inlet  
Impingement Plate. Alteration of Plate Design. Modification of Uppermost  
Baffle Plate. \_\_\_\_\_
7. COMPONENT REFERENCE DRAWING: Bechtel Vendor Print #M1-E11-23-4 \_\_\_\_\_
8. SCHEDULED COMMERCIAL DATE: June 30, 1983 \_\_\_\_\_
9. HYDROSTATIC TEST AND INSPECTION DATE: February 29, 1980 \_\_\_\_\_
10. DATE REPAIR AND/OR MODIFICATION COMPLETED: April 9, 1979 \_\_\_\_\_
11. WELDING PROCEDURE QUALIFICATION AND WELDER QUALIFICATION IN ACCORDANCE  
WITH ASME CODE: Yes X No \_\_\_\_\_
12. REPAIRS MADE IN ACCORDANCE WITH:  
A. REPAIR PLANS BY : GE-NEBG \_\_\_\_\_  
B. REPAIR CONCERN'S PROCEDURES BY: Bechtel Construction \_\_\_\_\_
13. REPAIR PLANS AND PROCEDURES APPROVED BY: Pennsylvania Power & Light Co. \_\_\_\_\_

COMPONENT: RHR Heat Exchange

#1E-205-A

We certify the above statements to be correct and that the repairs are completed as indicated.

DATE: March 4 1982 SIGNED: J. W. Peckis BY: J. W. PECKIS for  
(Bachtel Constr.) (print name and title)

DATE: April 6 1982 SIGNED: W. J. Rhoades BY: W. J. Rhoades  
(PP&L) (NPE Mechanical Group Supervisor  
(print name and title)

Additionally, the repair procedures and/or repair plans were approved prior to start of work, as certified by the following organization.

DATE: Jan 7 1982 SIGNED: J. W. Millard BY: J. W. Millard, Mgr.  
(GE-NEBG) (SUSQUEHANNA PROJECT  
(print name and title)

### CERTIFICATE OF WELDED REPAIR INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State of PA have inspected during repair the object described above and state that to the best of my knowledge and belief, the statements made and certified to above by the representative of Pennsylvania Power and Light Company are correct.

By signing this certificate neither the Inspector nor Factory Mutual makes any warranty, expressed or implied, concerning the object described in this report. Furthermore, neither the Inspector nor Factory Mutual shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with the inspection, except such liability as may be provided in a policy of insurance which Factory Mutual may issue upon said object and then only in accordance with the terms of said policy.

DATE: APRIL 13 1982

SIGNED: William R. Rogers COMMISSIONS: PA 2204 NB 7980  
(Inspector) (State and National Board No.)

Remarks:

Jurisdiction #469338.

REPORT OF REPAIRS AND/OR MODIFICATIONS

PENNSYLVANIA POWER & LIGHT COMPANY  
TWO NORTH NINTH STREET  
ALLENTOWN, PENNSYLVANIA 18101

SUSQUEHANNA STEAM ELECTRIC STATION  
PENNSYLVANIA POWER & LIGHT COMPANY  
POST OFFICE BOX 467  
BERWICK, PA 18606

COMPONENT: Residual Heat Removal  
Heat Exchanger  
#1E-205-B

SUSQUEHANNA SES UNIT: One

SCHEDULED COMMERCIAL DATE: 6-3-83

4-9-79

REPAIRS COMPLETION DATE: 8-30-79

## REPORT OF REPAIRS AND/OR MODIFICATIONS

1. OWNER: Pennsylvania Power & Light Company  
Two North Ninth Street  
Allentown, Pennsylvania 18101
2. PLANT: Susquehanna Steam Electric Station \_\_\_\_\_
3. PLANT UNIT: One
4. OWNER CERTIFICATION OF AUTHORIZATION NUMBER: OWN-131  
EXPIRATION DATE: October 15, 1982
5. COMPONENT NAME: Residual Heat Removal Heat Exchanger #1E-205-B  
MANUFACTURER: M.L.W. Industries  
SERIAL NUMBER: 10640-Q  
NATIONAL BOARD NUMBER: 123
6. DESCRIPTION OF REPAIR AND/OR MODIFICATION: Modification: Addition of  
Inlet Impingement Plate. Alteration of Plate Design. Modification of  
Uppermost Baffle Plate. Repair: Blending/Grinding of Void in Heat  
Exchanger Casting.
7. COMPONENT REFERENCE DRAWING: Bechtel Vendor Print #M1-E11-23-4
8. SCHEDULED COMMERCIAL DATE: June 30, 1983
9. HYDROSTATIC TEST AND INSPECTION DATE: February 26, 1980
10. DATE REPAIR AND/OR MODIFICATION COMPLETED: Modification: April 9, 1979  
Repair: August 30, 1979
11. WELDING PROCEDURE QUALIFICATION AND WELDER QUALIFICATION IN ACCORDANCE  
WITH ASME CODE: Yes X No
12. REPAIRS MADE IN ACCORDANCE WITH:  
A. REPAIR PLANS BY : GE-NEBG  
B. REPAIR CONCERN'S PROCEDURES BY: Bechtel Construction
13. REPAIR PLANS AND PROCEDURES APPROVED BY: Pennsylvania Power & Light Co.

COMPONENT: RHR Heat Exchanger  
#1E-205-B

We certify the above statements to be correct and that the repairs are completed as indicated.

DATE: March 4 1982 SIGNED: [Signature] BY: J. W. PECKIS for  
(Bechtel Constr.) (print name and title)  
DATE: April 6 1982 SIGNED: [Signature] BY: W. J. Rhoades  
(PP&L) (print name and title)

Additionally, the repair procedures and/or repair plans were approved prior to start of work, as certified by the following organization.

DATE: Dec 7 1981 SIGNED: [Signature] BY: J. W. Millard, Mgr.  
(GE-NEBG) (print name and title)

# CERTIFICATE OF WELDED REPAIR INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State of PA have inspected during repair the object described above and state that to the best of my knowledge and belief, the statements made and certified to above by the representative of Pennsylvania Power and Light Company are correct.

By signing this certificate neither the Inspector nor Factory Mutual makes any warranty, expressed or implied, concerning the object described in this report. Furthermore, neither the Inspector nor Factory Mutual shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with the inspection, except such liability as may be provided in a policy of insurance which Factory Mutual may issue upon said object and then only in accordance with the terms of said policy.

DATE: APRIL 13 19 82  
SIGNED: William R. Rogers II COMMISSIONS: PA 2204 NB 7980  
(Inspcior) (State and National Board No.)

Remarks:

Jurisdiction #469339

REPORT OF REPAIRS AND/OR MODIFICATIONS

PENNSYLVANIA POWER & LIGHT COMPANY  
TWO NORTH NINTH STREET  
ALLENTOWN, PENNSYLVANIA 18101

SUSQUEHANNA STEAM ELECTRIC STATION  
PENNSYLVANIA POWER & LIGHT COMPANY  
POST OFFICE BOX 467  
BERWICK, PA 18606

COMPONENT: RPV N-4 Nozzles - Feedwater

Nozzle Safe Ends

SUSQUEHANNA SES UNIT: One

SCHEDULED COMMERCIAL DATE: 6-30-83

REPAIRS COMPLETION DATE: 6-7-79



## REPORT OF REPAIRS AND/OR MODIFICATIONS

1. OWNER: Pennsylvania Power & Light Company  
Two North Ninth Street  
Allentown, Pennsylvania 18101
2. PLANT: Susquehanna Steam Electric Station \_\_\_\_\_
3. PLANT UNIT: One \_\_\_\_\_
4. OWNER CERTIFICATION OF AUTHORIZATION NUMBER: OWN-131 \_\_\_\_\_  
EXPIRATION DATE: October 15, 1982 \_\_\_\_\_
5. COMPONENT NAME: Reactor Pressure Vessel Nozzles N-4 \_\_\_\_\_  
MANUFACTURER: Chicago Bridge & Iron Co. \_\_\_\_\_  
SERIAL NUMBER: B5023 \_\_\_\_\_  
NATIONAL BOARD NUMBER: 3686 \_\_\_\_\_
6. DESCRIPTION OF REPAIR AND/OR MODIFICATION: Modification: Removal and \_\_\_\_\_  
Replacement of Six (6) Feedwater Nozzle Safe Ends \_\_\_\_\_  
\_\_\_\_\_
7. COMPONENT REFERENCE DRAWING: Bechtel Vendor Print #M1-B11-277-1 \_\_\_\_\_  
\_\_\_\_\_
8. SCHEDULED COMMERCIAL DATE: June 30, 1983 \_\_\_\_\_
9. HYDROSTATIC TEST AND INSPECTION DATE: September 22, 1980 \_\_\_\_\_
10. DATE REPAIR AND/OR MODIFICATION COMPLETED: June 7, 1980 \_\_\_\_\_
11. WELDING PROCEDURE QUALIFICATION AND WELDER QUALIFICATION IN ACCORDANCE  
WITH ASME CODE: Yes X No \_\_\_\_\_
12. REPAIRS MADE IN ACCORDANCE WITH:  
A. REPAIR PLANS BY : GE-NEBG \_\_\_\_\_  
B. REPAIR CONCERN'S PROCEDURES BY: GE-I&SE \_\_\_\_\_
13. REPAIR PLANS AND PROCEDURES APPROVED BY: Pennsylvania Power & Light Co. \_\_\_\_\_

COMPONENT: RPV X-4  
Nozzles, Unit I

We certify the above statements to be correct and that the repairs are completed as indicated.

DATE: JAN. 6 1982 SIGNED: [Signature] BY: G. M. Wolff  
 (GE I&SE) (print name and title)  
 DATE: JAN 7 1982 SIGNED: [Signature] BY: J. W. Millard, Mgr.  
 (GE-NEBG) (print name and title)  
 DATE: April 6 1982 SIGNED: [Signature] BY: SUSQUEHANNA PROJECT  
 (PP&L) (print name and title)

Additionally, the repair procedures and/or repair plans were approved prior to start of work, as certified by the following organization.

DATE: April 6 1982 SIGNED: [Signature] BY: W. J. Rhoades  
 (PP&L) (print name and title)  
NPE Mechanical Group Supervisor

### CERTIFICATE OF WELDED REPAIR INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State of PA have inspected during repair the object described above and state that to the best of my knowledge and belief, the statements made and certified to above by the representative of Pennsylvania Power and Light Company are correct.

By signing this certificate neither the Inspector nor Factory Mutual makes any warranty, expressed or implied, concerning the object described in this report. Furthermore, neither the Inspector nor Factory Mutual shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with the inspection, except such liability as may be provided in a policy of insurance which Factory Mutual may issue upon said object and then only in accordance with the terms of said policy.

DATE: APRIL 13 19 82  
 SIGNED: William R. Roguski COMMISSIONS: PA 2204 NB 7980  
 (Inspector) (State and National Board No.)

Remarks:

Jurisdiction #B111230

REPORT OF REPAIRS AND/OR MODIFICATIONS

PENNSYLVANIA POWER & LIGHT COMPANY  
TWO NORTH NINTH STREET  
ALLENTOWN, PENNSYLVANIA 18101

SUSQUEHANNA STEAM ELECTRIC STATION  
PENNSYLVANIA POWER & LIGHT COMPANY  
POST OFFICE BOX 467  
BERWICK, PA 18606

COMPONENT: RPV N-2 Nozzles -

Recirculation Inlet

Nozzle Safe Ends

SUSQUEHANNA SES UNIT: One

SCHEDULED COMMERCIAL DATE: 6-30-83

REPAIRS COMPLETION DATE: 1-31-80

## REPORT OF REPAIRS AND/OR MODIFICATIONS

1. OWNER: Pennsylvania Power & Light Company  
Two North Ninth Street  
Allentown, Pennsylvania 18101
2. PLANT: Susquehanna Steam Electric Station \_\_\_\_\_
3. PLANT UNIT: One \_\_\_\_\_
4. OWNER CERTIFICATION OF AUTHORIZATION NUMBER: OWN-131  
EXPIRATION DATE: October 15, 1982
5. COMPONENT NAME: Reactor Pressure Vessel N-2 Nozzles  
MANUFACTURER: Chicago Bridge & Iron Co.  
SERIAL NUMBER: B5023  
NATIONAL BOARD NUMBER: 3686
6. DESCRIPTION OF REPAIR AND/OR MODIFICATION: Modification: Removal and  
Replacement of Recirculation Inlet Nozzle Safe Ends including Segment of  
Thermal Sleeve
7. COMPONENT REFERENCE DRAWING: Bechtel Vendor Print #M1-B11-212-1
8. SCHEDULED COMMERCIAL DATE: June 30, 1983
9. HYDROSTATIC TEST AND INSPECTION DATE: September 22, 1981
10. DATE REPAIR AND/OR MODIFICATION COMPLETED: January 31, 1980
11. WELDING PROCEDURE QUALIFICATION AND WELDER QUALIFICATION IN ACCORDANCE  
WITH ASME CODE: Yes ☒ No ☐
12. REPAIRS MADE IN ACCORDANCE WITH:  
A. REPAIR PLANS BY : GE-NEBG  
B. REPAIR CONCERN'S PROCEDURES BY: GE-T&SE
13. REPAIR PLANS AND PROCEDURES APPROVED BY: Pennsylvania Power & Light Co.

COMPONENT: RPV N-2 Nozzler -

Unit 1

We certify the above statements to be correct and that the repairs are completed as indicated.

DATE: Jan. 6 1982 SIGNED: G. M. Wolff BY: Manager, Engineering  
(GE-I&SE) (print name and title)

DATE: April 6 1982 SIGNED: W. J. Rhoades BY: NPE Mechanical Group Supervisor  
(PP&L) (print name and title)

Additionally, the repair procedures and/or repair plans were approved prior to start of work, as certified by the following organization.

DATE: Dec 7 1981 SIGNED: J. W. Millard BY: SUSQUEHANNA PROJECT  
(GE-NEBG) (print name and title)

### CERTIFICATE OF WELDED REPAIR INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State of PA have inspected during repair the object described above and state that to the best of my knowledge and belief, the statements made and certified to above by the representative of Pennsylvania Power and Light Company are correct.

By signing this certificate neither the Inspector nor Factory Mutual makes any warranty, expressed or implied, concerning the object described in this report. Furthermore, neither the Inspector nor Factory Mutual shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with the inspection, except such liability as may be provided in a policy of insurance which Factory Mutual may issue upon said object and then only in accordance with the terms of said policy.

DATE: APRIL 13 19 82

SIGNED: William R. Rogers III  
(Inspector)

COMMISSIONS: PA2204 NB7980  
(State and National Board No.)

Remarks:

Jurisdiction #B111230

REPORT OF REPAIRS AND/OR MODIFICATIONS

PENNSYLVANIA POWER & LIGHT COMPANY  
TWO NORTH NINTH STREET  
ALLENTOWN, PENNSYLVANIA 18101

SUSQUEHANNA STEAM ELECTRIC STATION  
PENNSYLVANIA POWER & LIGHT COMPANY  
POST OFFICE BOX 467  
BERWICK, PA 18606

COMPONENT: Reactor Pressure Vessel -

Unauthorized Hanger

Attachment -

SUSQUEHANNA SES UNIT: One

SCHEDULED COMMERCIAL DATE: 6-30-83

REPAIRS COMPLETION DATE: 8-11-80

REPORT OF REPAIRS AND/OR MODIFICATIONS

1. OWNER: Pennsylvania Power & Light Company  
Two North Ninth Street  
Allentown, Pennsylvania 18101
2. PLANT: Susquehanna Steam Electric Station
3. PLANT UNIT: One
4. OWNER CERTIFICATION OF AUTHORIZATION NUMBER: OWN-131  
EXPIRATION DATE: October 15, 1982
5. COMPONENT NAME: Reactor Pressure Vessel  
MANUFACTURER: Chicago Bridge & Iron Co.  
SERIAL NUMBER: B5023  
NATIONAL BOARD NUMBER: 3686
6. DESCRIPTION OF REPAIR AND/OR MODIFICATION: Repair: Removal of Unauthorized  
Hanger from Vessel. Repair of Vessel Wall.
7. COMPONENT REFERENCE DRAWING: SPA-804, SP-DCA-137-4H
8. SCHEDULED COMMERCIAL DATE: June 30, 1983
9. HYDROSTATIC TEST AND INSPECTION DATE: September 22, 1980
10. DATE REPAIR AND/OR MODIFICATION COMPLETED: August 11, 1980
11. WELDING PROCEDURE QUALIFICATION AND WELDER QUALIFICATION IN ACCORDANCE  
WITH ASME CODE: Yes ☐ No ☐ Not Applicable
12. REPAIRS MADE IN ACCORDANCE WITH:
  - A. REPAIR PLANS BY : GE-NEBG
  - B. REPAIR CONCERN'S PROCEDURES BY: Bechtel Construction
13. REPAIR PLANS AND PROCEDURES APPROVED BY: Pennsylvania Power & Light Co.

COMPONENT: RPV Unit I -  
Hanger Removal

We certify the above statements to be correct and that the repairs are completed as indicated.

DATE: March 4 1982 SIGNED: [Signature] BY: J. W. PECKIS for  
(Bechtel Constr.) (print name and title)  
Field Construction Manager

DATE: April 6 1982 SIGNED: [Signature] BY: W. J. Rhoades  
(PP&L) (print name and title)  
NPE Mechanical Group Supervisor

Additionally, the repair procedures and/or repair plans were approved prior to start of work, as certified by the following organization.

DATE: Dec 7 1981 SIGNED: [Signature] BY: J. W. Millard, Mgr.  
(GE-NEBG) (print name and title)  
SUSQUEHANNA PROJECT

# CERTIFICATE OF WELDED REPAIR INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State of PA have inspected during repair the object described above and state that to the best of my knowledge and belief, the statements made and certified to above by the representative of Pennsylvania Power and Light Company are correct.

By signing this certificate neither the Inspector nor Factory Mutual makes any warranty, expressed or implied, concerning the object described in this report. Furthermore, neither the Inspector nor Factory Mutual shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with the inspection, except such liability as may be provided in a policy of insurance which Factory Mutual may issue upon said object and then only in accordance with the terms of said policy.

DATE: APRIL 13 19 82

SIGNED: William R. Rogers III COMMISSIONS: PA 2204 NB 7980  
(Inspector) (State and National Board No.)

Remarks:

Jurisdiction #B111230



REPORT OF REPAIRS AND/OR MODIFICATIONS

PENNSYLVANIA POWER & LIGHT COMPANY  
TWO NORTH NINTH STREET  
ALLENTOWN, PENNSYLVANIA 18101

SUSQUEHANNA STEAM ELECTRIC STATION  
PENNSYLVANIA POWER & LIGHT COMPANY  
POST OFFICE BOX 467  
BERWICK, PA 18606

COMPONENT: RPV Nozzle N-9 -  
Control Rod Drive Return  
Line -

SUSQUEHANNA SES UNIT: One

SCHEDULED COMMERCIAL DATE: 6-30-83

REPAIRS COMPLETION DATE: 9-19-80

## REPORT OF REPAIRS AND/OR MODIFICATIONS

1. OWNER: Pennsylvania Power & Light Company  
Two North Ninth Street  
Allentown, Pennsylvania 18101
2. PLANT: Susquehanna Steam Electric Station
3. PLANT UNIT: One
4. OWNER CERTIFICATION OF AUTHORIZATION NUMBER: OWN-131  
EXPIRATION DATE: October 15, 1982
5. COMPONENT NAME: Reactor Pressure Vessel Nozzle N-9  
MANUFACTURER: Chicago Bridge & Iron Co.  
SERIAL NUMBER: B5023  
NATIONAL BOARD NUMBER: 3686
6. DESCRIPTION OF REPAIR AND/OR MODIFICATION: Modification: Cap Off Control  
Rod Drive Return Line Nozzle N-9
7. COMPONENT REFERENCE DRAWING: GE Drawing 794E902, Rev. 0
8. SCHEDULED COMMERCIAL DATE: June 30, 1983
9. HYDROSTATIC TEST AND INSPECTION DATE: September 22, 1980
10. DATE REPAIR AND/OR MODIFICATION COMPLETED: September 19, 1980
11. WELDING PROCEDURE QUALIFICATION AND WELDER QUALIFICATION IN ACCORDANCE WITH ASME CODE: Yes ☒ No ☐
12. REPAIRS MADE IN ACCORDANCE WITH:  
A. REPAIR PLANS BY : GE-NEBG  
B. REPAIR CONCERN'S PROCEDURES BY: GE-I&SE
13. REPAIR PLANS AND PROCEDURES APPROVED BY: Pennsylvania Power & Light Co.

COMPONENT: RPV Nozzle  
N-9, Unit I

We certify the above statements to be correct and that the repairs are completed as indicated.

DATE: Jan. 6 1982 SIGNED: G. M. Wolff BY: G. M. Wolff  
 (GE I&SE) (print name and title)  
 DATE: Dec 7 1981 SIGNED: J. W. Millard BY: J. W. Millard, Mgr.  
 (GE-NEBG) (print name and title)  
 BY: SUSQUEHANNA PROJECT  
 (print name and title)

Additionally, the repair procedures and/or repair plans were approved prior to start of work, as certified by the following organization.

DATE: April 6 1982 SIGNED: W. J. Rhoades BY: W. J. Rhoades  
 (PP&L) (print name and title)  
 BY: NPE Mechanical Group Supervisor  
 (print name and title)

# CERTIFICATE OF WELDED REPAIR INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State of PA. have inspected during repair the object described above and state that to the best of my knowledge and belief, the statements made and certified to above by the representative of Pennsylvania Power and Light Company are correct.

By signing this certificate neither the Inspector nor Factory Mutual makes any warranty, expressed or implied, concerning the object described in this report. Furthermore, neither the Inspector nor Factory Mutual shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with the inspection, except such liability as may be provided in a policy of insurance which Factory Mutual may issue upon said object and then only in accordance with the terms of said policy.

DATE: APRIL 13 19 82  
 SIGNED: William R. Rogers III COMMISSIONS: PA 2204 NB7980  
 (Inspector) (State and National Board No.)

Remarks:

Jurisdiction #B111230

REPORT OF REPAIRS AND/OR MODIFICATIONS

PENNSYLVANIA POWER & LIGHT COMPANY  
TWO NORTH NINTH STREET  
ALLENTOWN, PENNSYLVANIA 18101

SUSQUEHANNA STEAM ELECTRIC STATION  
PENNSYLVANIA POWER & LIGHT COMPANY  
POST OFFICE BOX 467  
BERWICK, PA 18606

COMPONENT: Reactor Pressure Vessel-

Core Spray Line Bracket

Modification

SUSQUEHANNA SES UNIT: I

SCHEDULED COMMERCIAL DATE: 6-30-83

REPAIRS COMPLETION DATE: 7-24-81

## REPORT OF REPAIRS AND/OR MODIFICATIONS

1. OWNER: Pennsylvania Power & Light Company  
Two North Ninth Street  
Allentown, Pennsylvania 18101
2. PLANT: Susquehanna Steam Electric Station
3. PLANT UNIT: One
4. OWNER CERTIFICATION OF AUTHORIZATION NUMBER: Own-131  
EXPIRATION DATE: October 15, 1982
5. COMPONENT NAME: Reactor Pressure Vessel  
MANUFACTURER: Chicago Bridge and Iron Co.  
SERIAL NUMBER: B-5023  
NATIONAL BOARD NUMBER: 3686
6. DESCRIPTION OF REPAIR AND/OR MODIFICATION: Addition of  
four core spray line bracket posts to the inside surface  
of the pressure vessel shell
7. COMPONENT REFERENCE DRAWING: G.E. Dwg. 794E902, Revision 4,  
G.E. Dwg. 197R633, Revision 13
8. SCHEDULED COMMERCIAL DATE: June 30, 1983
9. HYDROSTATIC TEST AND INSPECTION DATE: September 22, 1980\*
10. DATE REPAIR AND/OR MODIFICATION COMPLETED: July 24, 1981
11. WELDING PROCEDURE QUALIFICATION AND WELDER QUALIFICATION IN ACCORDANCE  
WITH ASME CODE: Yes ☒ No ☐
12. REPAIRS MADE IN ACCORDANCE WITH:  
A. REPAIR PLANS BY: GE-NEBG  
B. REPAIR CONCERN'S PROCEDURES BY: GE-I&SE
13. REPAIR PLANS AND PROCEDURES APPROVED BY: Pennsylvania Power & Light Co.

\* ASME Section XI, 1974 edition through and including the Winter 1975 addenda exempts this modification from the hydrostatic test requirements since all vessel welds were on cladding.

COMPONENT: Reactor PressureVessel Core Spray Bracket

We certify the above statements to be correct and that the repairs are completed as indicated.

DATE: 4 June 1982 SIGNED: F. F. Forsythe BY: Service Manager - Technical Support  
(Repair Concern) (print name and title)  
DATE: 12 July 1982 SIGNED: W. J. Rhoades BY: Group Supervisor - Mech.  
(PP&L) (print name and title)

Additionally, the repair procedures and/or repair plans were approved prior to start of work, as certified by the following organization.

DATE: 6/18 1982 SIGNED: J. W. Millard BY: Project Manager SUSUMENANNA  
(GE-NEBO) (print name and title)

### CERTIFICATE OF WELDED REPAIR INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State of PA. have inspected during repair the object described above and state that to the best of my knowledge and belief, the statements made and certified to above by the representative of Pennsylvania Power and Light Company are correct.

By signing this certificate neither the Inspector nor Factory Mutual makes any warranty, expressed or implied, concerning the object described in this report. Furthermore, neither the Inspector nor Factory Mutual shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with the inspection, except such liability as may be provided in a policy of insurance which Factory Mutual may issue upon said object and then only in accordance with the terms of said policy.

DATE: JULY 13 1982

SIGNED: William R. Rogers III COMMISSIONS: PA 2204 NB7980  
(Inspector) (State and National Board No.)

Remarks:

JURISDICTION NO. PA B111230

**FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS**  
As Required by the Provisions of the ASME Code Section XI

1. Owner Pennsylvania Power & Light Co. Date May 9, 1983  
Name  
Two N. 9th St., Allentown, PA 18101 Sheet 1 of 1  
Address

2. Plant Susquehanna Steam Electric Station Unit I  
Name  
Berwick, PA Job # 8856-FCI-M-220  
Address Repair Organization P.O. No., Job No., etc.

3. Work Performed by Bechtel Power Corp. Type Code Symbol Stamp \_\_\_\_\_  
Name Authorization No. \_\_\_\_\_  
Berwick, PA Expiration Date \_\_\_\_\_  
Address

4. Identification of System Reactor Recirculation System

5. (a) Applicable Construction Code ASME III 19 71 Edition, S-71 Addenda N/A Code Case  
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1974 W-74 Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
Reactor Recirculation Pump	Byron Jackson	711-S-0801	None	1P401A	1973	Repaired	Yes
Reactor Recirculation Pump	Byron Jackson	711-S-0802	None	1P401B	1973	Repaired	Yes

7. Description of Work Repair of the pump lugs, lug welds and pump case

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Exempt  
 Other ☒ Pressure \_\_\_\_\_ psi Test Temp. \_\_\_\_\_ °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ in. x 11 in., (2) information in Items 1 through 8 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

# FORM NPV-1 MANUFACTURERS' DATA REPORT FOR NUCLEAR PUMPS OR VALVES\*

As Required by the Provisions of the ASME Code Rules

*\*Corrected Copy*

1. Manufactured by BYRON JACKSON PUMP DIVISION  
BORG WARNER CORPORATION L.A., CA. Order No. 711-S-0801  
(Name & Address of Manufacturer)

2. Manufactured for GENERAL ELECTRIC CO., BWRPD, SAN JOSE, CA.. Order No. 205-AD524  
(Name and Address)

3. Owner PENNSYLVANIA POWER AND LIGHT COMPANY

4. Location of Plant BERWICK, PENNSYLVANIA

5. Pump or Valve Identification MAIN COOLANT RECIRCULATION PUMP  
BOILING WATER REACTOR  
(Brief description of service for which equipment was designed)

OUTLINE 2F-1437 REV..C  
 (a) Drawing No. SECT. 1E-3429-6 REV. F Prepared by SAM WINSTEIN

(b) National Board No. \_\_\_\_\_

6. Design Conditions 1500 psig 575 °F  
(Pressure) (Temperature)

7. The material, design, construction, and workmanship complies with ASME Code Section III. Class 1

Edition 1971 Addenda Date SUMMER 1971 Case No. ----

Mark No.	PART	Material Spec. No.	Manufacturer	B.J. ROUTE CARD #
<i>A-1</i>	<i>Castings</i>			
<i>1</i>	<i>COVER</i>	<i>ASME-SA351 GR CF8M</i>	<i>ESCO</i>	<i>39870</i>
<i>2-1</i>	<i>HT. EXCH. FITTING</i>	<i>ASME-SA351 GR CF8M</i>		<i>39196</i>
<i>2-2-8</i>	<i>HT. EXCH. FITTING</i>	<i>ASME-SA351 GR CF8</i>		<i>103467</i>
<i>2-2-8</i>	<i>ATTACHMENTS</i>	<i>ASME-SA351 GR CF8</i>		<i>103468</i>
<i>1-6</i>	<i>SUCTION SPLITTER</i>	<i>ASME-SA240 TP 304</i>		<i>104266</i>
<i>1-7-1</i>	<i>HANGER BRACKETS</i>	<i>ASME-SA240 TP 304</i>		<i>104267/104268/104269</i>
<i>1-7-1</i>	<i>HANGER BRACKET STIFFENER</i>	<i>ASME-SA240 TP 304</i>		<i>104273</i>
<i>1-8-1</i>	<i>HANGER BRACKET SUPPORT</i>	<i>ASME-SA240 TP 304</i>		<i>104270</i>
<i>1-8-2</i>	<i>HANGER BRACKET SUPPORT</i>	<i>ASME-SA240 TP 304</i>		<i>104271</i>
<i>10-12</i>	<i>SEAL FLANGE</i>	<i>ASME-SA182 TP F316</i>		<i>103098</i>
<i>10-12-1</i>	<i>AND ATTACHMENTS</i>	<i>ASME-SA182 GR F304</i>		<i>92185</i>
<i>10-12-2</i>	<i>UNION -PRESS. CONN</i>	<i>ASME-SA479 TP 304</i>		<i>103100</i>
<i>10-12-3</i>	<i>THERMOWELL</i>	<i>ASME-SA182 GR F304</i>		<i>92185</i>
<i>10-12-3</i>	<i>UNION - DRAIN</i>	<i>ASME-SA182 GR F304</i>		<i>92185</i>

\*Supplemental sheets in form of lists, sketches or drawings may be used provided (1) size is 8 1/2" x 11", (2) information in items, 1, 2, 3a and 3b on this data report is included on each sheet, and (3) each sheet is numbered and number of sheets is recorded at top of this form.



## FORM NPV-1 (back)

Mark No.	PART	Material Spec. No.	Manufacturer	Remarks
(c) Bolting				B.J. ROUTE CARD #
	CASE STUDS	2-6	ASME-SA540 GR B23	104275
	CASE NUTS	2-10	ASME-SA194CL7	104276
	SEAL FLANGE CAP SCREW	10-13	ASME-SA540 GR B23	97494
(d) OTHER PARTS				
	HT. EXCH. ASSY.	2-2-5	N/A	WESTERN PIPE
	CONSISTING OF:			27807
	COVER OUTER SHELL	2-1-1	ASME-SA240 TP 304	106216
	COVER RING	2-1-3	ASME-SA240 TP 304	104035
	TOP RING	2-2-9	ASME-SA240 TP 304	103288
	BOTTOM RING	2-2-2	ASME-SA240 TP 304	103285
	HT. EXCH. INNER SHELL	2-2-6	ASME-SA240 TP 304	107417
	HT. EXCH. OUTER SHELL	2-2-7	ASME-SA240 TP 304	103287
	HT. EXCH. COIL	2-2-5	ASME-SA213 TP 304	37807
	PLUG	2-1-5	ASME-SA479 TP 304	104037
	UNION	2-2-18	ASME-SA182 GR 304	14251
	REDUCER	2-2-19	ASME-SA182 GR 304	11882
	PIPE	2-2-20	ASME-SA376 TP 304	103470

8. Hydrostatic test 2340 psig

## CERTIFICATION OF DESIGN

Design information on file at BYRON JACKSON PUMP DIVISION  
 Stress analysis report on file at BYRON JACKSON PUMP DIVISION  
 Design specifications certified by C. R. OAK (1) Prof. Eng. State CALIF. Reg. No. 15214  
 Stress analysis report certified by ROLAND BALL (1) Prof. Eng. State CALIF. Reg. No. 5765  
 (1) Signature not required. List name only.

We certify that the statements made in this report are correct.

Date 18 DECEMBER 19 73 Signed BYRON JACKSON PUMP DIV By C. Himmelman  
 (Manufacturer) C. HIMMELMAN

Certificate of Authorization No. N-688 expires 11 SEPTEMBER 1976

## CERTIFICATE OF SHOP INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State of Province of CALIFORNIA and employed by DIVISION OF INDUSTRIAL SAFETY of CALIFORNIA have inspected the equipment described in this Data Report on Dec 26 19 74, and state that to the best of my knowledge and belief, the Manufacturer has constructed this equipment in accordance with the applicable Subsections of ASME Code, Section III.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the equipment described in this Data Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date Dec 26 19 74

E. H. Calver Commissions Calif 803 \* Penn WIC 2096  
 (Inspector) (National Board, State, Province and No.)

# FORM NPV-1 MANUFACTURERS' DATA REPORT FOR NUCLEAR PUMPS OR VALVES\*

As Required by the Provisions of the ASME Code Rules

*\* Corrected Copy*

BYRON JACKSON PUMP DIVISION

1. Manufactured by BORG WARNER CORPORATION L.A., CA. Order No. 711-S-0802  
(Name & Address of Manufacturer)

2. Manufactured for GENERAL ELECTRIC CO., BWRPD. SAN JOSE. CA. Order No. 205-AD524  
(Name and Address)

3. Owner PENNSYLVANIA POWER AND LIGHT COMPANY

4. Location of Plant BERWICK, PENNSYLVANIA

5. Pump or Valve Identification MAIN COOLANT RECIRCULATION PUMP

BOILING WATER REACTOR

(Brief description of service for which equipment was designed)

OUTLINE 2F-1437 REV. C

(a) Drawing No. SECT. 1E-3429-6 REV. F Prepared by SAM WINSTEIN

(b) National Board No. \_\_\_\_\_

6. Design Conditions 1500 (Pressure) psi & 575 (Temperature) °F

7. The material, design, construction, and workmanship complies with ASME Code Section III. Class 1

Edition 1971, Addenda Date SUMMER 1971, Case No. ---

Mark No.	PART	Material Spec. No.	Manufacturer	B.J. ROUTE CARD #
(a) Castings CASE*	1-1	ASME-SA351 GR CF8m	ESCO	39871
COVER	2-1	ASME-SA351 GR CF8m		39197
HT. EXCH. FITTING	2-2-8	ASME-SA351 GR CF8		103467
HT. EXCH. FITTING	2-2-4	ASME-SA351 GR CF8		103468
*ATTACHMENTS				
SUCTION SPLITTER	1-6	ASME-SA240 TP 304		104266
HANGER BRACKETS	1-7	ASME-SA240 TP 304		104267-104268-104269
HANGER BRACKET STIFFENER	1-7-1	ASME-SA240 TP 304		104272
HANGER BRACKET SUPPORT	1-8-1	ASME-SA240 TP 304		104270
HANGER BRACKET SUPPORT	1-8-2	ASME-SA240 TP 304		104271
(b) Forgings				
SEAL FLANGE	10-12	ASME-SA182 TP F316		103345
AND ATTACHMENTS				
UNION - PRESS. CONN.	10-12-1	ASME-SA182 GR F304		93075
THERMOWELL	10-12-2	ASME-SA479 TP 804		103315
UNION - DRAIN	10-12-3	ASME-SA182 GR F304		93075

\*Supplemental sheets in form of lists, sketches or drawings may be used provided (1) size is 8 1/2" x 11", (2) information in items, 1, 2, 3a and 3b on this data report is included on each sheet, and (3) each sheet is numbered and number of sheets is recorded at top of this form.

74

FORM NPV-1 (back)

Mark No.	Material Spec. No.	Manufacturer	Remarks
(c) Boltline			
CASE STUDS	2-6	ASME-SA540 GR B23	104275
CASE NUTS	2-10	ASME-SA194CL7	104276
SEAL FLANGE CAP SCREW	10-13	ASME-SA540 GR B23	97494
(d) OTHER PARTS			
HT. EXCH. ASSY.	2-2-5	N/A	WESTERN PIPE
CONSISTING OF:			
COVER OUTER SHELL	2-1-1	ASME-SA240 TP 304	104214
COVER RING	2-1-3	ASME-SA240 TP 304	104035
TOP RING	2-2-9	ASME-SA240 TP 304	103288
BOTTOM RING	2-2-2	ASME-SA240 TP 304	103285
HT. EXCH. INNER SHELL	2-2-6	ASME-SA240 TP 304	107418
HT. EXCH. OUTER SHELL	2-2-7	ASME-SA240 TP 304	103349
HT. EXCH. COIL	2-2-5	ASME-SA213 TP 304	37808
PLUG	2-1-5	ASME-SA479 TP 304	104037
UNION	2-2-18	ASME-SA182 GR B04	05003
REDUCER	2-2-19	ASME-SA182 GR B04	11882
PIPE	2-2-20	ASME-SA376 TP 304	103470

9. Hydrostatic test 2340 psig

CERTIFICATION OF DESIGN

Design information on file at BYRON JACKSON PUMP DIVISION  
 Stress analysis report on file at BYRON JACKSON PUMP DIVISION  
 Design specifications certified by C. R. OAK (1) Prof. Eng. State CALIF Reg. No. 15214  
 Stress analysis report certified by ROLAND BALL (1) Prof. Eng. State CALIF Reg. No. 5765  
 (1) Signature not required. List name only.

We certify that the statements made in this report are correct.

Date 18 DECEMBER 19 73 Signed BYRON JACKSON PUMP DIV. By C. Himmelman  
 (Manufacturer) C. HIMMELMAN  
 Certificate of Authorization No. N-688 expires 11 SEPTEMBER 1976

CERTIFICATE OF SHOP INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State of Province of CALIFORNIA and employed by DIVISION OF INDUSTRIAL SAFETY of CALIFORNIA have inspected the equipment described in this Data Report on Mar. 26 19 74, and state that to the best of my knowledge and belief, the Manufacturer has constructed this equipment in accordance with the applicable Subsections of ASME Code, Section III.  
 By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the equipment described in this Data Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date Mar. 26 19 74

E. H. Culver Commission Calif. & C. 3 \* Ann WC 2096  
 (Inspector) (National Board, State, Province and No.)

Send to ANSI 7/12

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS  
As Required by the Provisions of the ASME Code Section XI

1. Owner Pennsylvania Power & Light Company Date July 5, 1983  
Name  
Two N. 9th St., Allentown, PA 18101 Sheet 1 of 1  
Address
2. Plant Susquehanna Steam Electric Station Unit I  
Name  
Berwick, PA Job No. 8856-ECT-M-231  
Address Repair Organization P.O. No., Job No., etc.
3. Work Performed by Bechtel Power Corporation Type Code Symbol Stamp NA  
Name  
Berwick, PA Authorization No. N881-2  
Address Expiration Date May 26, 1985
4. Identification of System Reactor Recirculation System
5. (a) Applicable Construction Code ASME III 19 71 Edition, W-72 Addenda, N/A Code Case  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 77, S-78 Addenda
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
Reactor Recirculation Piping	M.W. Kellogg / GE	VRR-B31-1 FW-A11M	N/A	None	Not Avail	Repaired	Yes
Reactor Recirculation Piping	M.W. Kellogg / GE	VRR-B31-1 FW-A13	N/A	None	Not Avail	Repaired	Yes

7. Description of Work Weld repair of piping field welds

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ None ☒ Exempt per  
Other ☐ Pressure \_\_\_\_\_ psi Test Temp. \_\_\_\_\_ °F IWA-4400

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in Items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

**FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS**  
As Required by the Provisions of the ASME Code Section XI

1. Owner Pennsylvania Power & Light Company Date July 5, 1983  
Name  
Two N. 9th St., Allentown, PA 18101  
Address
2. Plant Susquehanna Steam Electric Station Unit I  
Name  
Berwick, PA  
Address Job No. 8856-ECT-M-231  
Repair Organization P.O. No., Job No., etc.
3. Work Performed by Bechtel Power Corporation Type Code Symbol Stamp NA  
Name Authorization No. N881-2  
Berwick, PA Expiration Date May 26, 1985  
Address
4. Identification of System Reactor Recirculation System
5. (a) Applicable Construction Code ASME III 19 71 Edition, W-72 Addenda, N/A Code Case  
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 77, S-78 Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
Reactor Recirculation Piping	M.W. Kellogg / GE	VRR-B31-1 FW-A11M	N/A	None	Not Avail	Repaired	Yes
Reactor Recirculation Piping	M.W. Kellogg / GE	VRR-B31-1 FW-A13	N/A	None	Not Avail	Repaired	Yes

7. Description of Work Weld repair of piping field welds

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ None ☒ Exempt per IWA-4400  
 Other ☐ Pressure \_\_\_\_\_ psi Test Temp. \_\_\_\_\_ °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

ASME Code Repair Form

1. Work Authorization# 533919 4. System# B3 Code Class B
2. Component/Line DBB-126-1410 5. P. & I.D. 139
3. Component/Line Descrip. SIZE 1 Snubber (Pacific Scientific)
6. Welding Required yes no ☒; if yes, Weld Traveler# N/A  
(Welding per AD-QA-520).
7. Condition to be repaired/How deficiency detected: Replace Snubber with  
SAME SIZE SPARE DUE to Cement-Like Substance causing  
Binding of the originally-installed Snubber  
new Serial # 111130
8. Code Edition(s) & Addenda: ASME Section II 1978
9. Design & Construction description:  
See HANGER Detail DBB-126-1410
10. Repair Outline:
  - a. Method of defect removal: N/A (Replacement)
  - b. Required NDE following defect removal:
    1. Method: N/A 2. Procedure N/A
  - c. Design Verification: N/A
11. Hydro/Pressure Test Requirements: N/A
12. Component design report affected  
Yes no ☒ (if yes, indicate method of verification)  
N/A

ASME Code Repair Form

1. Work Authorization# 533919 4. System# 83 Code Class B
2. Component/Line DBB-123-H12 5. P. & I.D. 139
3. Component/Line Descrip. SIZE 1 Snubber (Pacific Scientific)
6. Welding Required yes no ☒; if yes, Weld Traveler# N/A  
(Welding per AD-QA-520).
7. Condition to be repaired/How deficiency detected: Replace Snubber  
with SAME SIZE SPARE DUE to Corrosion - LINE INSULATION  
CAUSING BIDDING of the originally installed snubber  
new Serial #: 111209
8. Code Edition(s) & Addenda: ASME Section II 1978
9. Design & Construction description:  
See HANDED Detail DBB-123-H12
10. Repair Outline:
  - a. Method of defect removal: N/A (Replacement)
  - b. Required NDE following defect removal:
    1. Method: N/A
    2. Procedure: N/A
  - c. Design Verification: N/A
11. Hydro/Pressure Test Requirements: N/A
12. Component design report affected  
Yes no ☒ (if yes, indicate method of verification)  
N/A

13. ANTI notification:

a. Welded repair - N/A  
Verified by \_\_\_\_\_ Date \_\_\_\_\_

b. Non-welded repair - RA-Langel / 4/7/83  
Verified by Date

14. "Report of Welded Repair or Alteration" completed and forwarded to Sr. Compliance Engineer.

R.A. Henge / 4/8/33  
Verified by Date

15. For welded repairs to ASME Class 1 & 2 systems, a copy of Repair Form (Attachment A) and associated Weld Traveler forwarded to Senior Compliance Engineer for Inservice Inspection Program updating.

Verified by	Date
-------------	------

Completed by Date

Reviewed by Date



ASME Code Repair Form

1. Work Authorization# 533979 4. System# 83 Code Class B
2. Component/Line DBA-124-1411 5. P. & I.D. 139
3. Component/Line Descrip. SIZE 1 Subbier (Pacific Scientific)
6. Welding Required yes no ☒; if yes, Weld Traveler# N/A  
(Welding per AD-QA-520).
7. Condition to be repaired/How deficiency detected: Replace Subbier  
with SAME SIZE SPARE Due to Cement-Like Substance  
causing Binding of the originally-Installed Subbier  
new Serial # 11131
8. Code Edition(s) & Addenda: ASME Section VI 1978
9. Design & Construction description:  
See HAUGER Detail DBA-124-1411
10. Repair Outline:
  - a. Method of defect removal: N/A (Replacement)
  - b. Required NDE following defect removal:
    1. Method: N/A 2. Procedure N/A
  - c. Design Verification: N/A
11. Hydro/Pressure Test Requirements: N/A
12. Component design report affected:  
Yes no ☒ (if yes, indicate method of verification)  
N/A

13. ANII notification:

- a. Welded repair - N/A / N/A  
Verified by Date
- b. Non-welded repair - R.A. Lenz / 4/8/83  
Verified by Date

14. "Report of Welded Repair or Alteration" completed and forwarded to Sr. Compliance Engineer.

\_\_\_\_\_  
Verified by Date

15. For welded repairs to ASME Class 1 & 2 systems, a copy of Repair Form: (Attachment A) and associated Weld Traveler forwarded to Senior Compliance Engineer for Inservice Inspection Program updating.

\_\_\_\_\_  
Verified by Date

Completed by Date

Reviewed by Date

\_\_\_\_\_/\_\_\_\_

\_\_\_\_\_/\_\_\_\_

ASME Code Repair Form

1. Work Authorization# S33790 4. System# 64 Code Class A
2. Component/Line DCA-144-H2076 5. P. & I.D. M-143
3. Component/Line Descrip. Pacific Scientific Mechanical Shock (SIZE 1/4)
6. Welding Required yes no ☒; if yes, Weld Traveler# N/A  
(Welding per AD-QA-520).
7. Condition to be repaired/How deficiency detected: During AD-TY-195  
Inspection, Snubber would NOT STROKE. Snubber was replaced  
with SPARE.
8. Code Edition(s) & Addenda: Section II 1977 Ed with Summer 1978 Addenda
9. Design & Construction description:  
Pacific Scientific SIZE 1/4 mechanical Shock (IDM #24)
10. Repair Outline:
  - a. Method of defect removal: Replaced old Snubber AT Location  
DCA-144-H2076 with Snubber from store room. New  
Serial # 20960
  - b. Required NDE following defect removal:
    1. Method: N/A 2. Procedure N/A
  - c. Design Verification: AD-TY-195 (Replacement is kind  
Design is NOT Affected)
11. Hydro/Pressure Test Requirements: N/A
12. Component design report affected  
Yes No ☒ (if yes, indicate method of verification)

13. ANII notification:

a. Welded repair - N/A / N/A  
Verified by Date

b. Non-welded repair - W. R. Pagen / 4-15-83  
Verified by Date

14. "Report of Welded Repair or Alteration" completed and forwarded to Sr. Compliance Engineer.

N/A / N/A  
Verified by Date

15. For welded repairs to ASME Class 1 & 2 systems, a copy of Repair Form (Attachment A) and associated Weld Traveler forwarded to Senior Compliance Engineer for Inservice Inspection Program updating.

N/A / N/A  
Verified by Date

Completed by Date

P. A. Rye / 4/15/83

Reviewed by Date

A. Rye / 4/15/83

ASME Code Repair Form

1. Work Authorization# S33790 4. System# 64 Code Class A
2. Component/Line DCA-WA-2015 5. P. & I.D. M-143
3. Component/Line Descrip. PACIFIC Scientific MECHANICAL SHOCK (SIZE 1/4)
6. Welding Required yes no ☒; if yes, Weld Traveler# N/A  
(Welding per AD-QA-520).
7. Condition to be repaired/How deficiency detected: DURING AD-TY-195  
INSPECTION. SWUBBER WAS SHIFT IN THE SHOCKING. SWUBBER WAS  
REPLACED WITH A SPARE.
8. Code Edition(s) & Addenda: Section II 1977 Ed with Summer 1978 Addenda
9. Design & Construction description:  
PACIFIC Scientific SIZE 1/4 MECHANICAL SHOCK (COM #2A)
10. Repair Outline:  
a. Method of defect removal: REPLACED old SWUBBER AT LOCATION  
DCA-144-172076 WITH SWUBBER FROM STORE ROOM. NEW  
SERIAL # 20959  
b. Required NDE following defect removal:  
1. Method: N/A 2. Procedure N/A  
c. Design Verification: AD-TY-195 (REPLACEMENT IN KIND DESIGN  
IS NOT REQUIRED)
11. Hydro/Pressure Test Requirements: N/A
12. Component design report affected  
Yes no ☒ (if yes, indicate method of verification)

ASME Code Repair Form

1. Work Authorization# S33802 4. System# 25 Code: Class HCC 'C' <sup>REL 4/14/13</sup>
2. Component/Line HCC-138-H2001 5. P. & I.D. M-126
3. Component/Line Descrip. PSA SIZE 1/4. Mech. Shock
6. Welding Required yes no ☒; if yes, Weld Traveler# N/A  
(Welding per AD-QA-520).
7. Condition to be repaired/How deficiency detected: Scrubber Failed to Stroke Deleted Through AD-TV-195 Insp.
8. Code Edition(s) & Addenda: Section IX 1977 Ed Incl. Summer 1978 Addenda
9. Design & Construction description:  
PSA IOM #24
10. Repair Outline:  
a. Method of defect removal: Replace Defective Scrubber Serial 100 of NEW Scrubber AT Location HCC-138-H2001 IS 20539
- b. Required NDE following defect removal:  
1. Method: N/A 2. Procedure N/A
- c. Design Verification: Replacement is kind, no design change CAD-TV-195
11. Hydro/Pressure Test Requirements: N/A
12. Component design report affected  
Yes no ☒ (if yes, indicate method of verification)

13. ANII notification:

a. Welded repair - N/A / N/A  
Verified by Date

b. Non-welded repair - W. R. Rogers / 4-19-83  
Verified by Date

14. "Report of Welded Repair or Alteration" completed and forwarded to Sr. Compliance Engineer.

R. A. Lenz / 4/12/83  
Verified by Date

-15. For welded repairs to ASME Class 1 & 2 systems, a copy of Repair Form (Attachment A) and associated Weld Traveler forwarded to Senior Compliance Engineer for Inservice Inspection Program updating.

N/A / N/A  
Verified by Date

Completed by Date

R. A. Lenz / 4/12/83

Reviewed by Date

W. R. Rogers / 4/12/83

ASME Code Repair Form

1. Work Authorization# 533798 4. System# 53 Code Class B
2. Component/Line DCB-101-H2013 5. P. & I.D. M-148
3. Component/Line Descrip. PSA SIZE 1/2 MCH. SHOCK
6. Welding Required yes no ☒, if yes, Weld Traveler# N/A  
(Welding per AD-QA-520).
7. Condition to be repaired/How deficiency detected: Snubber Failed to  
STROKE, Detected Through AD-TV-195 Insp.
8. Code Edition(s) & Addenda: Section II 1977 Ed Incl. Summary 1978 Addenda
9. Design & Construction description:  
PSA IOM # 24
10. Repair Outline:
  - a. Method of defect removal: Replace defective Snubber. Serial  
No of New Snubber at Location DCB-101-H2013 is 8747
  - b. Required NDE following defect removal:
    1. Method: N/A 2. Procedure N/A
  - c. Design Verification: Replacement is kind no Design change  
(AD-TV-195)
11. Hydro/Pressure Test Requirements: N/A
12. Component design report affected  
Yes no ☒ (if yes, indicate method of verification)



13. ANII notification:

a. Welded repair - N/A / N/A  
Verified by Date

b. Non-welded repair - W.R. Rogers III / 4-19-83  
Verified by Date

14. "Report of Welded Repair or Alteration" completed and forwarded to Sr. Compliance Engineer.

R.A. Rengel / 4/19/83  
Verified by Date

15. For welded repairs to ASME Class 1 & 2 systems, a copy of Repair Form (Attachment A) and associated Weld Traveler forwarded to Senior Compliance Engineer for Inservice Inspection Program updating.

N/A / N/A  
Verified by Date

Completed by Date

R.A. Rengel / 4/19/83

Reviewed by Date

\_\_\_\_\_/\_\_\_\_/\_\_\_\_

ASME Code Repair Form

1. Work Authorization# S34089 4. System# ES Code Class C
2. Component/Line GBL-101-WZCZ 5. P. & I.D. \_\_\_\_\_
3. Component/Line Descrip. SIZE 35 Mech Shock
6. Welding Required yes no ☒; if yes, Weld Traveler# N/A  
(Welding per AD-QA-520).
7. Condition to be repaired/How deficiency detected: oversized Fillet welds  
in Rear Bracket ~~with~~ which impair submer motion PROVED  
Ball Bearings - Detected Visually
8. Code Edition(s) & Addenda: Section II, 1977 Ed. with Summer 1978 Addenda
9. Design & Construction description:  
PSA SIZE 35 Mech Shock Rear Bracket
10. Repair Outline:
  - a. Method of defect removal: Grinding to reduce weld SIZE  
to obtain Adequate Clearance w/o violating min weld  
SIZE
  - b. Required NDE following defect removal:
    1. Method: VT 2. Procedure \_\_\_\_\_
  - c. Design Verification: Restoration of original Design
11. Hydro/Pressure Test Requirements: N/A
12. Component design report affected  
Yes No ☒ (if yes, indicate method of verification)

13. <sup>ANI</sup> notification:

a. Welded repair - N/A / N/A  
Verified by Date

b. Non-welded repair - D. E. Tillery / 5-5-83  
Verified by Date

14. "Report of Welded Repair or Alteration" completed and forwarded to Sr. Compliance Engineer.

\_\_\_\_\_  
Verified by Date

15. For welded repairs to ASME Class 1 & 2 systems, a copy of Repair Form (Attachment A) and associated Weld Traveler forwarded to Senior Compliance Engineer for Inservice Inspection Program updating.

\_\_\_\_\_  
Verified by Date

Completed by Date

Reviewed by Date

\_\_\_\_\_/\_\_\_\_

\_\_\_\_\_/\_\_\_\_

FORM R-1, REPORT OF WELDED X REPAIR OR ALTERATION  
As Required by the Provisions of The National Board Inspection Code

1. Work done by Pennsylvania Power & Light Company, Two North 9th St., Allentown, PA 18101  
(Name and address of repair or alteration organization) (Serial No.)
2. Owner Pennsylvania Power & Light Company, Two North 9th St., Allentown, PA 18101  
(Name and address of owner)
3. Location of Installation Susquehanna Steam Electric Station, P.O. Box 467, Berwick, PA 18603  
(Name and address)
4. Unit Identification ASME III Valve Name of Manufacturer Marotta Scientific  
(Boiler, Pressure Vessel)
5. Identifying Nos. 304 560 N/A Part # 281314-9001K 1977  
(Mfg. Serial No.) (National Board No.) (Jurisdiction) (Other) (Year Built)
6. Description of Work: Replaced defective valve #XV-1F004B by welding. Work performed under  
(Use back, separate sheet, or sketch if necessary)  
PP&L Work Authorization #S-25997.

7. Remarks: Attached are Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors for the following items of this report: NONE
- Pressure Test, if Applied 920 psi

Attached is the manufacturer's data report for the new valve.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in this report are correct and that all (design) material, construction, and workmanship on this repair conform to The National Board Inspection Code. (repair alteration)

Date 7-28-83 Signed Penn Power & Light Co by [Signature]  
(Repair Alteration Organization) (Authorized Representative)

Our Certificate of Authorization No. N/A to use the \_\_\_\_\_ Symbol expires \_\_\_\_\_, 19\_\_\_\_

CERTIFICATE OF INSPECTION

I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors or the State or Province of PENNSYLVANIA and employed by ARKWRIGHT BOSTON MFGRS. MUTUAL INS. CO. of WALTHAM MA have inspected the work described in this Data Report on OCT. 29, 1982 and state that to the best of my knowledge and belief, this work has been done in accordance with The National Board Inspection Code.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the work described in this Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection, except such liability as may be provided in a policy of insurance which the Inspector's insurance company may issue upon said object and then only in accordance with the terms of said policy.

Date OCT. 7, 1983 William R. Riggs III Commissions PA 2204 NB7980  
Inspector (National Board State, Province, and No.)

## FORM NPV-1 MANUFACTURERS' DATA REPORT FOR NUCLEAR PUMPS OR VALVES\*

As Required by the Provisions of the ASME Code Rules

1. Manufactured by Marotta Scientific Controls  
Boonton Avenue, Boonton, N.J. 07005 (Order No. 02017)  
 (Name & Address of Manufacturer)
2. Manufactured for Bechtel Power Corporation  
San Francisco, CA 94119 (Order No. 8856-J-92-AC)  
 (Name and Address)
3. Owner Pennsylvania Power and Light Company  
\* Salem Township, Luzerne County
4. Location of Plant Susquehanna Steam Electric Station, Allentown-PA. Unit #1&2
5. Pump or Valve Identification Excess Flow Check Valve, Model FVL 16 FD  
Water Service, equipped with Position Switches and By-Pass Solenoid.  
 (Brief description of service for which equipment was designed)

- (a) Drawing No. 281314-9001 Prepared by Marotta Scientific Controls, Inc.
- (b) National Board No. 538 thru 561  
\* 1510
6. Design Conditions 1050 psi 600 °F  
 (Pressure) (Temperature)
7. The material, design, construction, and workmanship complies with ASME Code Section III, Class 1  
 Edition \*1974, Addenda Date \*W74, Case No. N/A

Mark No.	Material Spec. No.	Manufacturer	Remarks
(a) Castings			
* Corrected Line 6; Pressure was incorrect			
Design Conditions: Added 1510; Deleted 1050			
Additions Verified <u>D. J. Dennis 12/1/81</u> Additions Verified <u>D. J. Dennis 12/1/81</u>			
MSCI QA			
N/A			
* Corrected Line 7: At Jurisdictional Authority Request			
Edition: Added 1974; Deleted W74			
Addenda Date: Added W74; Deleted N/A			
(b) Forgings NOTE: Inspection Agency had been changed from Commercial Union			
to Lumbermens Mutual Casualty.			
Additions Verified <u>D. J. Dennis 12/1/81</u>			
N/A			
* Corrected Line 4: At Jurisdictional Authority Request			
Location: Added: Salem Township, Luzerne County, Pa.			
Deleted: Allentown, Pa.			
Additions Verified <u>D. J. Dennis 12/1/81</u> Additions Verified <u>D. J. Dennis 12/1/81</u>			
MSCI QA			

\*Supplemental sheets in form of lists, sketches, or drawings may be used provided (1) size is 8 1/2" x 11", (2) information in items, 1, 2, 5a and 5b on this data report is included on each sheet, and (3) each sheet is numbered and number of sheets is recorded at top of this form.

ASME Code Repair Form

1. Work Authorization# S34123 4. System# 6Z Code Class A
2. Component/Line SP-DBA-11Z-H34 5. P. & I.D. M-141
3. Component/Line Descrip. Size 3 Scrubber Support
6. Welding Required yes no ☒; if yes, Weld Traveler# NTA  
(Welding per AD-QA-520)
7. Condition to be repaired/How deficiency detected: minor interference between Scrubber and Support. Detected visually
8. Code Edition(s) & Addenda: Section II 1977 Edition and Summer 1978 Addenda
9. Design & Construction description:  
Hanger Detail for SP-DBA-11Z-H34
10. Repair Outline:
  - a. Method of defect removal: Grind Away Small Interference
  - b. Required NDE following defect removal:
    1. Method: Visual
    2. Procedure: QA
  - c. Design Verification: NOT A Change to Design
11. Hydro/Pressure Test Requirements: QA
12. Component design report affected  
Yes    No    ☒ (if yes, indicate method of verification)  
QA

13. <sup>ANI</sup> notification:

a. Welded repair - U/A / U/A  
Verified by Date

b. Non-welded repair - D.E. Tillman / 5-5-83  
Verified by Date

14. "Report of Welded Repair or Alteration" completed and forwarded to Sr. Compliance Engineer.

\_\_\_\_\_  
Verified by Date

15. For welded repairs to ASME Class 1 & 2 systems, a copy of Repair Form (Attachment A) and associated Weld Traveler forwarded to Senior Compliance Engineer for Inservice Inspection Program updating.

\_\_\_\_\_  
Verified by Date

Completed by Date

Reviewed by Date

\_\_\_\_\_/\_\_\_\_

\_\_\_\_\_/\_\_\_\_

ASME Code Repair Form

1. Work Authorization# S34117 4. System# 83 Code Class C
2. Component/Line GBC-101-H242 5. P. & I.D. \_\_\_\_\_
3. Component/Line Descrip. MECH Subher SIZE 35 Rear Bracket
6. Welding Required yes no ☒; if yes, Weld Traveler# N/A  
(Welding per AD-QA-520):
7. Condition to be repaired/How deficiency detected: oversized Fillet welds  
in Rear Bracket, which impair Subher motion around Ball  
Bushing - Inspected Visually
8. Code Edition(s) & Addenda: Section II 1977 Ed with Summer 1978 Addenda
9. Design & Construction description:  
PSA SIZE 35 mech Shock Rear Bracket
10. Repair Outline:
  - a. Method of defect removal: Grinding to reduce weld size  
to obtain adequate clearance w/o violating min weld  
size
  - b. Required NDE following defect removal:
    1. Method: VT
    2. Procedure \_\_\_\_\_
  - c. Design Verification: Restoration of original design
11. Hydro/Pressure Test Requirements: N/A
12. Component design report affected  
Yes no ☒ (if yes, indicate method of verification)



13. <sup>ANI</sup> ~~API~~ notification:

a. Welded repair - WIA / WIA  
Verified by Date

b. Non-welded repair - D.E. Tiller / 5-5-83  
Verified by Date

14. "Report of Welded Repair or Alteration" completed and forwarded to Sr. Compliance Engineer.

\_\_\_\_\_  
Verified by Date

15. For welded repairs to ASME Class 1 & 2 systems, a copy of Repair Form (Attachment A) and associated Weld Traveler forwarded to Senior Compliance Engineer for Inservice Inspection Program updating.

\_\_\_\_\_  
Verified by Date

Completed by Date

Reviewed by Date

\_\_\_\_\_/\_\_\_\_

\_\_\_\_\_/\_\_\_\_

ASME Code Repair Form

1. Work Authorization# SS3692 4. System# 61 Code Class 'C'
2. Component/Line 1 PZZ1A 5. P. & I.D. M-144
3. Component/Line Descrip. A' RUCU Pump
6. Welding Required yes ☒ no ☐ ; if yes, Weld Traveler# 83-161-603  
(Welding per AD-QA-520).
7. Condition to be repaired/How deficiency detected: TACK weld Throat  
Bushing to Pump casing → PMR to change Pump to resolver  
Nick Seal cavity Temp (PMR 83-102)
8. Code Edition(s) & Addenda: <sup>ASME</sup> Sched II 1977 Ed. Incl. Summer 1978 Addenda
9. Design & Construction description:  
UNION Pump COMPANY (EOM # 539) DWG 847 B02480-00 (Attached)
10. Repair Outline:
  - a. Method of defect removal: NONE Required
  - b. Required NDE following defect removal:
    1. Method: NIA 2. Procedure NIA
  - c. Design Verification: PMR 83-102
11. Hydro/Pressure Test Requirements: NIA
12. Component design report affected  
Yes ☐ No ☒ (if yes, indicate method of verification)

**FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS**  
As Required by the Provisions of the ASME Code Section XI

1. Owner Pennsylvania Power & Light Company Date July 5, 1983  
Name  
Two N. 9th St., Allentown, PA 18101  
Address
2. Plant Susquehanna Steam Electric Station Unit I  
Name  
Berwick, PA Job No. 8856-ECT-M-211  
Address Repair Organization P.O. No., Job No., etc.
3. Work Performed by Bechtel Power Corporation Type Code Symbol Stamp NA  
Name Authorization No. N881-2  
Berwick, PA Expiration Date May 26, 1985  
Address
4. Identification of System Main Steam System
5. (a) Applicable Construction Code ASME III 19 71 Edition, W-72 Addenda, N/A Code Case  
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 77, S-78 Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
Main Steam System Piping	Grinnell/Bechtel	None	N/A	DBB-101-1	1982	Repaired	Yes
				DBB-102-1			
				DBB-103-1			
				DBB-104-1			
				DBB-105-1			

7. Description of Work Weld Repair of defects on integral attachment welds on Main Steam Tunnel piping
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ None ☒ Exempt per IWA-4400  
 Other ☐ Pressure \_\_\_\_\_ psi Test Temp. \_\_\_\_\_ °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

# MANUFACTURER'S REPORT OF WELDED REPAIRS OR ALTERATIONS

☒ Lumbermens Mutual Casualty Co.

☐ American Motorists Insurance Co.

1 REPAIRED BY (Name and address of Manufacturer or Repair Concern)	
Bechtel Power Corporation, Berwick, Pennsylvania	
2 REPAIRED FOR (Name and plant address of owner)	
Pennsylvania Power and Light Co., (SSES), Berwick, Pennsylvania	
3 OBJECT AND TYPE (Boiler, pressure vessel, P. T., W. T., location, etc.)	
ASME Section III, Class II Main Steam Piping	
4 IDENTIFICATION NUMBER (Owner's, State, other)	YEAR BUILT
N-5 System 183A C1 II	1982
5 DESCRIPTION OF REPAIR (Use separate sheets or labels if necessary)	
Weld repair of integral attachment welds to restore them to design size subsequent to ASME Section XI NDE baseline surface preparation. Repairs performed in accordance with NCR-9285, NCR-9377 and FCI-M-211, Revision 1.	
6 REPAIRS MADE IN ACCORDANCE WITH	
<input type="checkbox"/> Owner's Instructions <input type="checkbox"/> NCBT Board Rules <input checked="" type="checkbox"/> Repair Concern's Plans	
REPAIR PLANS APPROVED BY (Name of Owner representative)	
S. L. Denson, PP&L Construction	
DATE OF APPROVAL	
5/7/82 and 6/24/82	
7 WELDING PROCEDURE QUALIFICATION AND WELDER QUALIFICATION IN ACCORDANCE WITH ASME CODE	
<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
PROCEDURE DESIGNATION	DATE OF QUALIFICATION
P1-At-Lh	1/22/73
TEST RESULTS AVAILABLE	
<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
WELDER'S NAME	DATE LAST QUALIFIED
J. Bixler	2-20-82
P. Osceles	1-20-82
WELDER'S NAME	DATE LAST QUALIFIED
J. Gontarski	4-4-79
M. Krol	2-16-76
WELDER'S NAME	DATE LAST QUALIFIED
S. Ritter	6-25-79
D. Smith	12-4-80
WELDER'S NAME	DATE LAST QUALIFIED
F. O'Neil Jr.	12-12-78
8 REPAIRS COMPLETED (Date)	HYDROSTATIC TEST (Pressure)
June 27, 1982	Not Applicable

We certify the above statements to be correct and that the repairs when completed satisfactorily withstood the hydrostatic test without evidence of leakage or other signs of distress.

Date September 20, 1982 Signed Bechtel Power Corporation By [Signature]  
 (Manufacturer or Repair Concern) (Representative)  
 For Field Construction Manager

## CERTIFICATE OF WELDED REPAIR INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State of Pennsylvania have inspected during repair the object described above and state that to the best of my knowledge and belief the statements made and certified to above by the representative of Bechtel Power Corporation are correct.

(Manufacturer or Repair Concern)

By signing this certificate neither the Inspector nor Lumbermen's Mutual Casualty Company makes any warranty, expressed or implied, concerning the object described in this report. Furthermore neither the Inspector nor Lumbermen's Mutual Casualty Company shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection, except such liability as may be provided in a policy of insurance which Lumbermen's Mutual Casualty Company may issue upon said object and then only in accordance with the terms of said policy.

Date 9-21 1982 Signed [Signature] Commissions Pa. WOC-1775.

FORM R-1, REPORT OF WELDED & REPAIR OR ALTERATION  
As Required by the Provisions of The National Board Inspection Code

1. Work done by Pennsylvania Power & Light Company, Two North 9th St., Allentown, PA 18101  
(Name and address of repair or alteration organization) (Serial No.)
2. Owner Pennsylvania Power & Light Company, Two North 9th St., Allentown, PA 18101  
(Name and address of owner)
3. Location of Installation Susquehanna Steam Electric Station, P.O. Box 467, Berwick, PA 18603  
(Name and address)
4. Unit Identification ASME III PIPE Name of Manufacturer N/A  
(Boiler, Pressure Vessel)
5. Identifying Nos. N/A N/A N/A GBC-101-15-VWAR2 1982  
(Mfg. Serial No.) (National Board No.) (Jurisdiction) (Other) (Year Built)
6. Description of Work: Repaired weld GBC-101-15-1-VWAR2 Work performed under PP&L Work  
(Use back, separate sheet, or sketch if necessary)  
Authorization #S-25344.

NONE Pressure Test, if Applied N/A psi

7. Remarks: Attached are Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors for the following items of this report:

(Name of part, item number, mfg's name and identifying stamp)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in this report are correct and that all (design) material, construction, and workmanship on this repair conform to The National Board Inspection Code. (repair alteration)

Date 9-28-83 Signed Penn Power & Light Co by [Signature]  
(Repair Alteration Organization) (Authorized Representative)

Our Certificate of Authorization No. N/A to use the \_\_\_\_\_ Symbol expires \_\_\_\_\_ 19\_\_\_\_

CERTIFICATE OF INSPECTION

I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors or the State or Province of PENNSYLVANIA and employed by ARKWRIGHT BOSTON MEGRS MUTUAL INS. CO of WALTHAM MA have inspected the work described in this Data Report on AUGUST 10 1982 and state that to the best of my knowledge and belief, this work has been done in accordance with The National Board Inspection Code

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the work described in this Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection, except such liability as may be provided in a policy of insurance which the Inspector's insurance company may issue upon said object and then only in accordance with the terms of said policy.

Date OCT. 7, 1983 William R. Rogers III Commissions PA2204  
(Inspector) (National Board State Province and No.)

ASME Code Repair Form

1. Work Authorization# S-26094 4. System# 73 Code Class Q, ASME Class 2
2. Component/Line HCB- 5. P. & I.D. M-157
3. Component/Line Descrip. Grub sample line at Cnb/C227-B
6. Welding Required yes ☒ no ☐; if yes, Weld Traveler# 73-82-001  
(Welding per AD-QA-520).
7. Condition to be repaired/How deficiency detected: Eliminate blockage /  
lack of required flow.
8. Code Edition(s) & Addenda: ASME Section 1977 edition, 78 Summer Addenda
9. Design & Construction description: ASME Section III, Class 2
10. Repair Outline:
  - a. Method of defect removal: Grind out weld to investigate  
for blockage
  - b. Required NDE following defect removal:
    1. Method: PT 2. Procedure NLP-1
  - c. Design Verification: Restore to original design  
per Weld Traveler
11. Hydro/Pressure Test Requirements: Inservice leak test.
12. Component design report affected  
Yes ☐ No ☒ (if yes, indicate method of verification)

13. ANII notification:

- a. Welded repair - W.R. Rogers / 9-16-82  
Verified by Date
- b. Non-welded repair - N/A / MA  
Verified by Date

14. "Report of Welded Repair or Alteration" completed and forwarded to Sr. Compliance Engineer.

T. Rengle / 2/18/83  
Verified by Date

15. For welded repairs to ASME Class 1 & 2 systems, a copy of Repair Form (Attachment A) and associated Weld Traveler forwarded to Senior Compliance Engineer for Inservice Inspection Program updating.

T. Rengle / 2/18/83  
Verified by Date

Completed by Date

W. Rogers / 9/16/82

Reviewed by Date

D. Laine / 2/18/83

**FORM NIS-2 OWNER'S REPORT OF REPAIR OR REPLACEMENT**  
As Required by the Provisions of ASME Code Section XI

1. Owner Pennsylvania Power & Light Co. Date 1/16/84  
Two No. 9th St., Allentown, PA 18101 Sheet 1 of 1  
(Name)  
(Address)
2. Plant Susquehanna Steam Electric Station Unit 1  
P. O. Box 467, Berwick, PA 18603  
(Name)  
(Address)
3. Work Performed by Owner Work Authorization #S-26478  
(Name) Repair Organization P.O. No., Job No., etc
4. Identification of System System # 183 Main Steam  
(Address)
5. (a) Applicable Construction Code ASME III, 1972 Edition, W72 Addenda, Code Cases  
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements - 1980, W80 Addenda, Code Cases
6. Identification of Components Repaired or Replaced, and Replacement Components

Name of Component	Name of Mfr.	Mfrs. Ser. No.	Nat'l. Bd. No.	CRN No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
DBB-102-1 FWIORI							Repair	Yes

7. Description of Work Weld build-up to obtain minimum wall thickness
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☐  
 Pressure            psi Test Temp.            °F
9. Remarks none  
(Applicable Manufacturer's Data Reports to be attached)

**CERTIFICATE OF COMPLIANCE**

We certify that the statements made in this report are correct and this repair conforms to Section XI of the ASME Code.  
(Repair or Replacement)

Signed W. Keenan 1-18-84, 1984  
(Owner or Owner's Designee) Title Date

**CERTIFICATE OF INSPECTION**

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of PENNSYLVANIA, employed by ARKWRIGHT BOSTON MFGS. MUTUAL INS. CO. of WALTHAM MASS have inspected the REPAIR described in this Report on OCTOBER 23, 1982.  
(Repair or Replacement)

and state that to the best of my knowledge and belief, this repair or replacement has been constructed in accordance with Section XI of the ASME Code. By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the repair or replacement described in this Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date JAN. 20, 1984 William R. Rogers III Commissions PA 22021  
(Inspector) (State or Prov. of National Board)

Note: Supplemental sheets in form of lists, sketches, or drawings may be used provided (1) size is 8 1/2 in. x 11 in., (2) information in Items 1 through 4 on this data report is included on each sheet, and (3) each sheet is numbered and the number of sheets is reproduced at the top of this form.



13. ANII notification:

- a. Welded repair - W. R. Rogers III / 4-14-83  
Verified by Date
- b. Non-welded repair - N/A / N/A  
Verified by Date

14. "Report of Welded Repair or Alteration" completed and forwarded to Sr. Compliance Engineer.

D. L. Laine / 5/7/83  
Verified by Date

15. For welded repairs to ASME Class 1 & 2 systems, a copy of Repair Form (Attachment A) and associated Weld Traveler forwarded to Senior Compliance Engineer for Inservice Inspection Program updating.

D. A. Hengel / 5/9/83  
Verified by Date

Completed by Date

D. A. Hengel / 5/9/83

Reviewed by Date

D. A. Hengel / 5/9/83

ASME Code Repair Form

1. Work Authorization# S33416 4. System# 149 Code Class 2
2. Component/Line DBB-107-HB 5. P. & I.D. 151 Sh.2
3. Component/Line Descrip. Size 35 Fig. 306 Mechanical Snubbers
6. Welding Required yes no X; if yes, Weld Traveler# \_\_\_\_\_  
(Welding per AD-QA-520).
7. Condition to be repaired/How deficiency detected: Replace 2 Snubbers  
with like replacements / DBB-107-H7 spring hanger attachment  
failure Snubbers possibly damaged
8. Code Edition(s) & Addenda: Section XI, IWF, 1980
9. Design & Construction description:  
\_\_\_\_\_  
\_\_\_\_\_
10. Repair Outline:
  - a. Method of defect removal: Replace 2 Size 35 Figure 306  
Snubber with like replacements
  - b. Required NDE following defect removal:
    1. Method: \_\_\_\_\_
    2. Procedure None
  - c. Design Verification: None
11. Hydro/Pressure Test Requirements: None
12. Component design report affected  
Yes X No \_\_\_\_\_ (if yes, indicate method of verification)  
IER PMR 83-169

Snubbers which were removed  
Serial # 6946 & 6944  
Replaced with Serial # 6035 & 6037

13. ANII notification:

a. Welded repair -

N/A Can 2-23-83  
Verified by Date

b. Non-welded repair -

N/A Can 2-23-83  
Verified by Date  
W.R. Rogers 2-23-83

14. "Report of Welded Repair or Alteration" completed and forwarded to Sr. Compliance Engineer.

N/A Can 2-23-83  
Verified by Date

15. For welded repairs to ASME Class 1 & 2 systems, a copy of Repair Form (Attachment A) and associated Weld Traveler forwarded to Senior Compliance Engineer for Inservice Inspection Program updating.

N/A Can 2-23-83  
Verified by Date

Completed by Date

Reviewed by Date

N/A Can 2-23-83

ASME Code Repair Form

1. Work Authorization# 5-33425 4. System# 149 Code Class ASME CLS II
2. Component/Line DBB-107-H5 5. P. & I.D. 151
3. Component/Line Descrip. RHR PIPE HANGER - ELBU. 704 AREA 29  
"A LOOP" C83-49-16 C83-49-13
6. Welding Required yes X no    ; if yes, Weld Traveler# C83-49-15  
(Welding per AD-QA-520). C83-49-14
7. Condition to be repaired/How deficiency detected: FABRICATE AND INSTALL  
REINFORCED BEAM TO REDUCE W8X20 AND REMOVE AND  
REFIELD UPPER CLEVIS' SUPPORTS FOR SPRING CANS  
SECTION II - 1977 EDITION INCL. SUPPLEMENT 1978 ADDENDUM
8. Code Edition(s) & Addenda: ASME B31.1 HAS BEEN ORIGINALLY CONSIDERED  
DCH  
2/23/83
9. Design & Construction description:  
ASME SEC III CLASS II - BECHTEL DRAWING DBB-107-H5 CONTAINS  
THE MATERIAL LIST.
10. Repair Outline:
  - a. Method of defect removal: CROCKED WELD WILL BE REMOVED  
BY GRINDING IF REQUIRED
  - b. Required NDE following defect removal:
    1. Method: VISUAL 2. Procedure GWR-5 REV 0
  - c. Design Verification: REPAIRS WILL BE DOCUMENTED ON AS BUILT  
DRAWINGS WHICH WILL BECOME A PART OF PNR 83-169
11. Hydro/Pressure Test Requirements: NONE
12. Component design report affected  
Yes X No    (if yes, indicate method of verification)  
PNR 83-169

13. ANII notification:

a. Welded repair

W.R. Rugin III / 2-23-83  
Verified by Date

b. Non-welded repair

N/A / N/A  
Verified by Date

14. "Report of Welded Repair or Alteration" completed and forwarded to Sr. Compliance Engineer.

N/A / N/A  
Verified by Date

15. For welded repairs to ASME Class 1 & 2 systems, a copy of Repair Form (Attachment A) and associated Weld Traveler forwarded to Senior Compliance Engineer for Inservice Inspection Program updating.

N/A / N/A  
Verified by Date

Completed by Date

D.C. Housenick / 2/23/83

Reviewed by Date

A. Slay / 2/24/83

ASME Code Repair Form

1. Work Authorization# 5-33426 4. System# 149 Code Class ASME CLS II
2. Component/Line DBB-107-H3 S. P. & I.D. 14-151
3. Component/Line Descrip. RHR PIPE HANGER ELEV. 538 ASEA 29  
"A LOOP" 704 DA 2/23/93  
C83-49-11
6. Welding Required yes ☒ no ☐ ; if yes, Weld Traveler# C83-49-12  
(Welding per AD-QA-520).
7. Condition to be repaired/How deficiency detected: GRIND OUT AND  
REWELD UPPER CLEVIS TO BEAM W-12
8. Code Edition(s) & Addenda: SECTION I-1977 EDITION INCL. SUPPL. 1978 ADDENDA  
ANSI B31.1 / AWS F4.0 ~~PER OPERATING CONSTRUCTION CODE~~
9. Design & Construction description:  
ASME SECT III CLASS 2. BECHTEL DRAWING DBB-107-H3  
CONTAINS THE MATERIAL LIST 2/23/93
10. Repair Outline:
  - a. Method of defect removal: GRIND WELDS
  - b. Required NDE following defect removal:
    1. Method: VISUAL 2. Procedure GUR-5 REV 0
  - c. Design Verification: REPAIRS WILL BE DOCUMENTED ON  
AS BUILT DRAWINGS WHICH WILL BECOME A PART OF  
PMR 83-169
11. Hydro/Pressure Test Requirements: NONE
12. Component design report affected  
Yes ☒ No ☐ (if yes, indicate method of verification)  
PMR 83-169

13. ANII notification:

a. Welded repair - W.R. Brown III / 2-23-83  
Verified by Date

b. Non-welded repair - N/A / N/A  
Verified by Date

14. "Report of Welded Repair or Alteration" completed and forwarded to Sr. Compliance Engineer.

N/A /           
Verified by Date

15. For welded repairs to ASME Class 1 & 2 systems, a copy of Repair Form (Attachment A) and associated Weld Traveler forwarded to Senior Compliance Engineer for Inservice Inspection Program updating.

N/A /           
Verified by Date

Completed by Date

for D.C. Housenick / 2/24/83

Reviewed by Date

A. J. D. / 2/24/83

# ASME Code Repair Form

1. Work Authorization# 5-33427 4. System# 149 Code Class ASME CLASS 2
2. Component/Line DBG-107-H10 5. P. & I.D. 151
3. Component/Line Descrip. PMR "B" LOOP PIPE JOINT - ELEV 704 AREA 28
6. Welding Required yes ☒ no ☐ ; if yes, Weld Traveler# C-83-49-27  
(Welding per AD-QA-520).
7. Condition to be repaired/How deficiency detected: GRIND WELDS, REMOVE UPPER CLEVIS, REPLACE AND REWELD.
8. Code Edition(s) & Addenda: SECTION XI - 1977 EDITION INCL. JUNE 1978 ADDENDA  
ASME CODE 1 / ASME PER ORIGINAL CONSTRUCTION CODE  
DOT 2/23/82
9. Design & Construction description:  
ASME III CLASS II - REPAIR DRAWING DBG-107-H10 CONTAINS MATERIAL LOT
10. Repair Outline:
  - a. Method of defect removal: WELDS WERE REMOVED BY GRINDING WHERE REQUIRED
  - b. Required NDE following defect removal:
    1. Method: VISUAL 2. Procedure GWR-5 - REV 0
  - c. Design Verification: REPAIRS WILL BE DOCUMENTED ON AS BUILT DRAWINGS WHICH WILL BECOME PART OF PMR 83-169
11. Hydro/Pressure Test Requirements: NONE
12. Component design report affected  
Yes ☒ No ☐ (if yes, indicate method of verification)  
PMR 83-169



13. ANII notification:

a. Welded repair

W.R. Rogers III / 12-23-83  
Verified by Date

b. Non-welded repair -

N/A / N/A  
Verified by Date

14. "Report of Welded Repair or Alteration" completed and forwarded to Sr. Compliance Engineer.

\_\_\_\_\_  
Verified by Date

15. For welded repairs to ASME Class 1 & 2 systems, a copy of Repair Form (Attachment A) and associated Weld Traveler forwarded to Senior Compliance Engineer for Inservice Inspection Program updating.

\_\_\_\_\_  
Verified by Date

Completed by Date

\_\_\_\_\_/\_\_\_\_

Reviewed by Date

\_\_\_\_\_/\_\_\_\_

# ASME Code Repair Form

1. Work Authorization# S-33427 4. System# 149 Code Class ASME CLASS 2
2. Component/Line DBD-107-H? 5. P. & I.D. 151
3. Component/Line Descrip. RHE "B" LOOP PIPE SUPPORT - ELEV. 704 AREA 28
6. Welding Required yes ☒ no ☐ ; if yes, Weld Traveler# DBD-107-H? DBD-107-H? DBD-107-H?  
(Welding per AD-QA-520). C83-49-09 C83-49-10 C83-49-17 C83-49-18 C83-49-06 C83-49-07 C83-49-08
7. Condition to be repaired/How deficiency detected: ADD STIFFENERS TO LOWER HANGER BEAM, ADD WELD METAL TO UPPER CLEVIS SUPPORTS
8. Code Edition(s) & Addenda: SECTION XI-1977 EDITION INCL. SUPPLEMENT 1978 ADDENDUM  
ANSI B31.1 PLUS PER ORIGINAL CONSTRUCTION CODE 2/23/83
9. Design & Construction description:  
ASME CLASS II BECHTEL DRAWING DBD-107-H? CONTAINS MATERIAL LIST
10. Repair Outline:
  - a. Method of defect removal: WELOS WERE REMOVED BY GRINDING WHERE REQUIRED
  - b. Required NDE following defect removal:
    1. Method: VISUAL 2. Procedure GWR-5 REV 0
  - c. Design Verification: REPAIRS WILL BE DOCUMENTED ON AS BUILT DRAWINGS WHICH WILL BECOME PART OF DMR 83-169
11. Hydro/Pressure Test Requirements: NONE
12. Component design report affected  
Yes ☒ No ☐ (if yes, indicate method of verification)  
DMR 83-169

13. ANII notification:

a. Welded repair

W. R. Rogers III / 2-23-83  
Verified by Date

b. Non-welded repair -

N/A / N/A  
Verified by Date

14. "Report of Welded Repair or Alteration" completed and forwarded to Sr. Compliance Engineer.

\_\_\_\_\_  
Verified by Date

15. For welded repairs to ASME Class 1 & 2 systems, a copy of Repair Form (Attachment A) and associated Weld Traveler forwarded to Senior Compliance Engineer for Inservice Inspection Program updating.

\_\_\_\_\_  
Verified by Date

Completed by Date

Reviewed by Date

\_\_\_\_\_/\_\_\_\_

\_\_\_\_\_/\_\_\_\_

# ASME Code Repair Form

1. Work Authorization# SS3830 4. System# 61 Code Class B
2. Component/Line <sup>NV 144F104</sup>  
~~NV 144F104~~ 5. P. & I.D. M-144  
<sub>4/11/83</sub>
3. Component/Line Descrip. RUXX Wt V'che Bx-PASS Valve
6. Welding Required yes ☒ no ☐ ; if yes, Weld Traveler# 83-161-002  
(Welding per AD-QA-520).
7. Condition to be repaired/How deficiency detected: REPLACED VALVE  
Disc. FOUND through suspected seat leakage
8. Code Edition(s) & Addenda: ASME Section II 1977 Ed incl 1978 Summer Addenda
9. Design & Construction description:  
Anchor DASHING IOM #75 Figure 2 (3" 150# globe valve) contains  
Design and Construction information (ref'd to ASME section II)
10. Repair Outline:
  - a. Method of defect removal: Replaced Valve Disc
  - b. Required NDE following defect removal:
    1. Method: Visual 2. Procedure GWK-S Rev D
  - c. Design Verification: Because replacement was direct one-for-one with identical part, design is not affected
11. Hydro/Pressure Test Requirements: NONE
12. Component design report affected  
Yes ☐ No ☒ (if yes, indicate method of verification)  
NONE

13. ANII notification: \*

a. Welded repair - W.R. Rogers III / 4.11.83  
Verified by Date

b. Non-welded repair - N/A / N/A  
Verified by Date

14. "Report of Welded Repair or Alteration" completed and forwarded to Sr. Compliance Engineer.

R.A. Long / 4/11  
Verified by Date

15. For welded repairs to ASME Class 1 & 2 systems, a copy of Repair Form (Attachment A) and associated Weld Traveler forwarded to Senior Compliance Engineer for Inservice Inspection Program updating.

R.A. Long / 4/11  
Verified by Date

Completed by Date

R.A. Long / 4/11

Reviewed by Date

D. Lewis / 4/11

\* Weld was NOT A pressure retaining weld, but was on A pressure retaining part

FORM R-1, REPORT OF WELDED ☒ REPAIR OR ☐ ALTERATION  
As Required by the Provisions of The National Board Inspection Code

1. Work done by Pennsylvania Power & Light Co., Two North 9th Street, Allentown, PA 18101  
(Name and address of repair or alteration organization) (Serial No.)

2. Owner Pennsylvania Power & Light Co., Two North 9th Street, Allentown, PA 18101  
(Name and address of owner)

3. Location of Installation Susquehanna Steam Electric Station, P.O. Box 467, Berwick, PA 18603  
(Name and address)

4. Unit Identification Class 2 Valve Name of Manufacturer Anchor Darling Valve Co.  
(Boiler, Pressure Vessel)

5. Identifying Nos. E-5853-33-1 N/A PA B111230 HV-1F017A 1976  
(Mfg. Serial No.) (National Board No.) (Jurisdiction) (Other) (Year Built)

6. Description of Work: Replaced stop ring and seal welded. Replaced disc and tack welded disc to  
(Use back, separate sheet, or sketch if necessary)  
disc nut. PP&L Work Authorization U-24356.

7. Remarks: Attached are Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors for the following  
Items of this report: None Required Pressure Test, If Applied \_\_\_\_\_ psi  
Valve Disc

(Name of part, item number, mfg'r's name, and identifying stamp)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in this report are correct and that all (design) ASME III  
material, construction, and workmanship on this repair conform to  
The National Board Inspection Code. (repair, alteration)

Date 7-13-82 Signed Penn Power & Light Co. by [Signature]  
(Repair, Alteration Organization) (Authorized Representative)

Our Certificate of Authorization No. OWN-131 to use the \_\_\_\_\_ Symbol expires 10-15, 19 82

CERTIFICATE OF INSPECTION

I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors or the State or  
Province of PENNSYLVANIA and employed by ARKWRIGHT  
BOSTON MEGRS. MUTUAL INS. CO of WALTHAM MA. have inspected  
the work described in this Data Report on APRIL 23, 19 83 and state that to the best of my knowledge and belief,

this work has been done in accordance with The National Board Inspection Code.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the work  
described in this Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or  
property damage or a loss of any kind arising from or connected with this inspection, except such liability as may be provided in a policy  
of insurance which the Inspector's insurance company may issue upon said object and then only in accordance with the terms of said  
policy.

Date JAN. 6, 1984 William R. Roggen Commissions PA 2204  
Inspector

# FORM N-2 NPT CERTIFICATE HOLDERS' DATA REPORT FOR NUCLEAR PART AND APPURTENANCES\*

As required by the Provision of the ASME Code Rules, Section III, Div. 1

1. (a) Manufactured by Anchor/Darling Valve Co., 701 First Street, Williamsport, PA 17701  
(Name and address of NPT Certificate Holder)  
 (b) Manufactured for Pennsylvania Power & Light Co., (Susquehanna Station) Allentown, PA 18101  
(Name and address of N Certificate Holder for completed nuclear component)

2. Identification-Certificate Holder's Serial No. of Part S/N - 1 Nat'l Bd. No. N/A

(a) Constructed According to Drawing No. D11342 Drawing Prepared by Anchor/Darling Valve Company

(b) Description of Part Inspected Disc, Heat #221105 SA105

(c) Applicable ASME Code: Section III, Edition 1974, Addenda date ---, Case No. N/A Class 2

3. Remarks: 24" 900# Y-Globe  
(Brief description of service for which component was designed)  
A/DV S.O. #E-1127-1A

Note: No Disc Hydro Performed

We certify that the statements made in this report are correct and this vessel part or appurtenance as defined in the Code conforms to the rules of construction of the ASME Code Section III.  
 (The applicable Design Specification and Stress Report are not the responsibility of the NPT Certificate Holder for parts. An NPT Certificate Holder for appurtenances is responsible for furnishing a separate Design Specification and Stress Report if the appurtenance is not included in the component Design Specification and Stress Report.)

Date 3/2 19 82 Signed Anchor/Darling Valve Co. By R. S. Hannert  
(NPT Certificate Holder)

Certificate of Authorization Expires 4/15/83 Certificate of Authorization No. N1713

## CERTIFICATION OF DESIGN FOR APPURTENANCE (when applicable)

Design information on file at \_\_\_\_\_

Stress analysis report on file at \_\_\_\_\_

Design specifications certified by \_\_\_\_\_ Prof. Eng. Seate \_\_\_\_\_ Reg. No. \_\_\_\_\_

Stress analysis report certified by \_\_\_\_\_ Prof. Eng. Seate \_\_\_\_\_ Reg. No. \_\_\_\_\_

## CERTIFICATE OF SHOP INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State of ~~XXXXXX~~ Pennsylvania and employed by Commercial Union Insurance Company of Boston, Mass. have inspected the part of a pressure vessel described in this Partial Data Report on 2-2 PM 3-3-82 19 82, and state that to the best of my knowledge and belief, the NPT Certificate Holder has constructed this part in accordance with the ASME Code Section III.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the part described in this Partial Data Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date 3-3 19 82

Russell E. [Signature] Commissions Pennsylvania WC972  
National Board, State, Province and No.

**BECHTEL**  
**675**

\*Supplemental sheets in form of lists, sketches or drawings may be used provided (1) size is 14" x 11", (2) information on items 1-2 on this Data Report is included on each sheet, and (3) each sheet is numbered and number of sheets is reported in item 3, "Remarks".

FORM R-1, REPORT OF WELDED ☒ REPAIR OR ☐ ALTERATION  
As Required by the Provisions of The National Board Inspection Code

Work done by Pennsylvania Power & Light Co., Two North 9th Street, Allentown, PA 18101  
(Name and address of repair or alteration organization) (Serial No.)  
2. Owner Pennsylvania Power & Light Co., Two North 9th Street, Allentown, PA 18101  
(Name and address of owner)  
3. Location of Installation Susquehanna Steam Electric Station, P.O. Box 467, Berwick, PA 18603  
(Name and address)  
4. Unit Identification Class 2 Valve Name of Manufacturer Anchor Darling Valve Company  
(Boiler, Pressure Vessel)  
5. Identifying Nos. E-5853-33-24 N/A B111230 PA HV-E11-1F017B 1976  
(Mfg. Serial No.) (National Board No.) (Jurisdiction) (Other) (Year Built)  
6. Description of Work: Replaced stop ring and seal welded. Replaced disc and tack welded disc to  
(Use back, separate sheet, or sketch if necessary)  
disc nut. PP&L Work Authorization U-24386

None Required Pressure Test, If Applied \_\_\_\_\_ psi  
7. Remarks: Attached are Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors for the following  
Items of this report: Valve Disc

(Name of part, item number, mfg's name, and identifying stamp)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in this report are correct and that all (design) ASME III  
material, construction, and workmanship on this repair conform to  
The National Board Inspection Code. (repair, alteration)  
Date 7-13-82 Signed Penn Power & Light Co. by W. Keen  
(Repair, Alteration Organization) (Authorized Representative)  
Our Certificate of Authorization No. OWN-131 to use the \_\_\_\_\_ Symbol expires 10-15 19 82

CERTIFICATE OF INSPECTION

I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors or the State or  
Province of PENNSYLVANIA and employed by ARKWRIGHT  
BOSTON MEGRS. MUTUAL INS. CO. of WALTHAM MA. have inspected  
the work described in this Data Report on MAY 3 19 83 and state that to the best of my knowledge and belief,  
this work has been done in accordance with The National Board Inspection Code.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the work  
described in this Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or  
property damage or a loss of any kind arising from or connected with this inspection, except such liability as may be provided in a policy  
of insurance which the Inspector's insurance company may issue upon said object and then only in accordance with the terms of said  
policy.

Date JAN 6, 1984 William R. Rogers III

FACTORY MUTUAL SYSTEM  
Commissions PA 2204



## FORM N-2 NPT CERTIFICATE HOLDERS' DATA REPORT FOR NUCLEAR REACTOR AND APPURTENANCES

As required by the Provision of the ASME Code Rules, Section III, Div. 1

RECORD COPY

- (a) Manufactured by Anchor/Darling Valve Co., 701 First Street, Williamsport, PA 17701  
(Name and address of NPT Certificate Holder)
- (b) Manufactured for Pennsylvania Power & Light Co., (Susquehanna Station) Allentown, PA 18101  
(Name and address of N Certificate Holder for completed nuclear component)
2. Identification-Certificate Holder's Serial No. of Part S/N - 4 Nat'l Bd. No. N/A
- (a) Constructed According to Drawing No. D11342 Drawing Prepared by Anchor/Darling Valve Company
- (b) Description of Part Inspected Disc, Heat #221105 SA105
- (c) Applicable ASME Code: Section III, Edition 1974, Addenda date ---, Case No. N/A Class 2
3. Remarks: 24" 900# Y-Globe  
(Brief description of service for which component was designed)
- A/DV S.O. #E-1127-1A
- Note: No Disc Hydro Performed

We certify that the statements made in this report are correct and this vessel part or appurtenance as defined in the Code conforms to the rules of construction of the ASME Code Section III.  
(The applicable Design Specification and Stress Report are not the responsibility of the NPT Certificate Holder for parts. An NPT Certificate Holder for appurtenances is responsible for furnishing a separate Design Specification and Stress Report if the appurtenance is not included in the component Design Specification and Stress Report.)

Date 3/4 19 82 Signed Anchor/Darling Valve Co. By R L Hannut  
(NPT Certificate Holder)

Certificate of Authorization Expires 4/15/83 Certificate of Authorization No. N1713

## CERTIFICATION OF DESIGN FOR APPURTENANCE (when applicable)

Design information on file at \_\_\_\_\_

Stress analysis report on file at \_\_\_\_\_

Design specifications certified by \_\_\_\_\_ Prof. Eng. State \_\_\_\_\_ Reg. No. \_\_\_\_\_

Stress analysis report certified by \_\_\_\_\_ Prof. Eng. State \_\_\_\_\_ Reg. No. \_\_\_\_\_

## CERTIFICATE OF SHOP INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and of the State of ~~XXXXXX~~ Pennsylvania and employed by Commercial Union Insurance Company of Boston, Mass.

have inspected the part of a pressure vessel described in this Partial Data Report on 2-2 Innu 3-5-82 19 82, and state that to the best of my knowledge and belief, the NPT Certificate Holder has constructed this part in accordance with the ASME Code Section III.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the part described in this Partial Data Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date 3-5 19 82  
Russell E. Montgomery Commissions Pennsylvania WC972  
Inspector's Signature National Board, State, Province and No. 515

FORM R-1, REPORT OF WELDED X REPAIR OR ALTERATION  
As Required by the Provisions of The National Board Inspection Code

1. Work done by Pennsylvania Power & Light Company, Two North 9th St., Allentown, PA 18101  
(Name and address of repair or alteration organization) (Serial No)
2. Owner Pennsylvania Power & Light Company, Two North 9th St., Allentown, PA 18101  
(Name and address of owner)
3. Location of Installation Susquehanna Steam Electric Station, P.O. Box 467, Berwick, PA 18603  
(Name and address)
4. Unit Identification ASME III Pipe to Valve Name of Manufacturer Lonerger  
(Boiler, Pressure Vessel)
5. Identifying Nos. 510138-2-18-1 N/A N/A N/A 1982  
(Mfg. Serial No) (National Board No) (Jurisdiction) (Other) (Year Built)
6. Description of Work: Re-fit and welded inlet and outlet flange for proper alignment of  
(Use back, separate sheet, or sketch if necessary)  
valve PSV-22643. Work performed under PP&L Work Authorization #S-24926.

Pressure Test, if Applied 150 psi

7. Remarks: Attached are Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors for the following items of this report: NONE

(Name of part, item number, mfg's name, and identifying stamp)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in this report are correct and that all (design) material, construction, and workmanship on this repair conform to The National Board Inspection Code. (Repair Alteration)

Date 9-25-83 Signed Penn Power & Light Co by [Signature]  
(Repair Alteration Organization) (Authorized Representative)

Our Certificate of Authorization No. N/A to use the \_\_\_\_\_ Symbol expires \_\_\_\_\_, 19\_\_\_\_

CERTIFICATE OF INSPECTION

I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors or the State or Province of PENNSYLVANIA and employed by ARKWRIGHT BOSTON MFGRS. MUTUAL INS. CO of WALTHAM MA, have inspected the work described in this Data Report on AUGUST 5, 1983 and state that to the best of my knowledge and belief, this work has been done in accordance with The National Board Inspection Code.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the work described in this Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection, except such liability as may be provided in a policy of insurance which the Inspector's insurance company may issue upon said object and then only in accordance with the terms of said policy.

Date OCT. 5, 1983 William R. Rogers III Commissions PA 2204  
(Inspector) (Factory Mutual System)

FORM R-1, REPORT OF WELDED ☒ REPAIR OR ☐ ALTERATION  
As Required by the Provisions of The National Board Inspection Code

1. Work done by Pennsylvania Power & Light Company, Two North 9th St., Allentown, PA 18101  
(Name and address of repair or alteration organization) (Serial No.)
2. Owner Pennsylvania Power & Light Company, Two North 9th St., Allentown, PA 18101  
(Name and address of owner)
3. Location of Installation Susquehanna Steam Electric Station, P.O. Box 467, Berwick, PA 18603  
(Name and address)
4. Unit Identification ASME III Pipe to Valve Name of Manufacturer Lonergan  
(Boiler, Pressure Vessel)
5. Identifying Nos. 510138-2-18-2 N/A N/A N/A 1982  
(Mfg. Serial No.) (National Board No.) (Jurisdiction) (Other) (Year Built)
6. Description of Work: Re-fit and welded inlet and outlet flange for proper alignment  
(Use back, separate sheet, or sketch if necessary)  
of valve PSV-22648. Work performed under PP&L Work Authorization #S-24926.

7. Remarks: Attached are Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors for the following items of this report: NONE
- Pressure Test, if Applied 150 psi

(Name of part, item number, mfg's name and identifying stamp)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in this report are correct and that all (Design) material, construction, and workmanship on this repair conform to The National Board Inspection Code. (Repair, Alteration)

Date 9-28-83 Signed Penn Power & Light Co by [Signature]  
(Repair, Alteration Organization) (Authorized Representative)

Our Certificate of Authorization No. N/A to use the \_\_\_\_\_ Symbol expires \_\_\_\_\_, 19\_\_\_\_

CERTIFICATE OF INSPECTION

I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors or the State or Province of PENNSYLVANIA and employed by ARK WRIGHT BOSTON MFGRS. MUTUAL INS. CO of WALTHAM MA. have inspected the work described in this Data Report on AUGUST 10, 1982 and state that to the best of my knowledge and belief, this work has been done in accordance with The National Board Inspection Code.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the work described in this Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection, except such liability as may be provided in a policy of insurance which the Inspector's insurance company may issue upon said object and then only in accordance with the terms of said policy.

Date OCT. 7, 1983 William R. Rogers III Commissions PA 2204  
Inspector (Factory Mutual System) (National Board, State, Province and No.)