Fermi 2
6400 North Dixie Hwy., Newport, MI 48166

Detroit Edison

10CFR50.55a

August 8, 2003
NRC-03-0061

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington D C 20555-0001

Reference: Fermi 2
NRC Docket No. 50-341
NRC License No. NPF-43

Subject: Inservice Inspection Summary Report

Enclosed is the Summary Report of the 2003 Inservice Inspection (ISI) activities performed at Detroit Edison Company's Fermi 2 Nuclear Power Plant. This report represents a summary of the ISI activities for the Second Ten-Year Inspection Interval beginning February 17, 2000 through the Ninth Refueling Outage, which was completed on May 10, 2003.

This report is being submitted in accordance with ASME Section XI, 1989 Edition, paragraph IWA-6230, for IWB, IWC, IWD, and IWF inspections, and the 1992 Edition, including the 1992 Addenda, for IWE inspections.

Should you have any questions or require additional information, please contact Mr. Norman K. Peterson, Manager - Nuclear Licensing, at (734) 586-4258.

Sincerely,

Donald K. Cobb
Director – Nuclear Production

Enclosure

cc: H. K. Chernoff
M. A. Ring
NRC Resident Office
Regional Administrator, Region III
M. Wilson - ANII
R. Aben Chief Inspector, Michigan Dept. of Labor
Bureau of Construction, Codes/Boiler Division

A047

FORM NIS-1 OWNERS' DATA REPORT FOR INSERVICE INSPECTIONS

As required by the Provisions of the ASME Code Rules

1. Owner Detroit Edison Co., 2000 2nd Ave., Detroit, MI 48226
   (Name and Address of Owner)

2. Plant Fermi-2 Nuclear Power Plant, 6400 N. Dixie Hwy., Newport MI 48166
   (Name and Address of Plant)

3. Plant Unit 2 4. Owner Certificate of Authorization (if required) N/A

5. Commercial Service Date 01-23-88 6. National Board Number for Unit N/A

7. Components Inspected See Program Table in Section 7.0 and 8.0 of attached Summary Report

Component Appurtenance	Manufacturer or Installer	Manufacturer or Installer Serial No.	State or Province No.	National Board No.
RPV	Combustion Engineering	CE-67211	M345962M	21085
Class 1, 2, & 3 Components (1)	Wisner & Becker Townsend & Bottom	Various	M345962M	N/A
Associated Supports	Chicago Bridge & Iron	Various	M345962M	N/A
	Reactor Controls Inc.	Various	M345962M	N/A
	Walbridge Aldinger Co.	Various	M345962M	N/A
Containment Vessel	Chicago Bridge and Iron	C-4512	N/A	N/A

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 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.

(1) Certificate of Accreditation No. OWN-159 for N-3 Data Report.

FORM NIS-1 (back)

8. Examination Dates 3/28/03 to 5/10/03

9. Inspection Interval from 02/17/00 to 02/17/10

10. Abstract of Examinations. Include a list of examinations and a statement concerning status of work required for current interval. A listing of all required examinations and those completed to date for Interval 2, Period 2, Refuel Outage Nine (RF-09), is included in the ISI Summary Report of the 2003 Inservice Inspection, Section 7.

11. Abstract of Conditions Noted (included as Section 5 with IWE in Section 8 of Summary Report).

12. Abstract of Corrective Measures Recommended and Taken (included as Section 5 and 8 of Summary Report).

We hereby 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 August 5, 2003 Signed Detroit Edison Co. By M A Brooks
Owner Lead ISI Engineer

Certificate of Authorization No. (if applicable) N/A Expiration Date N/A

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 Michigan of and employed by HSB CT of One State Street, Hartford, Conn 06102, have inspected the components described in this Owners Data Report during the period of 2/27/02 to 5/10/03 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. 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 August 6, 2003

Signed Mark D Wilson Commissions NB 6010
Inspector's Signature State, Province

ISI SUMMARY REPORT OF THE 2003 INSERVICE INSPECTION

at

Fermi 2 Nuclear Power Plant
6400 N. Dixie Highway
Newport, MI 48166

Detroit Edison Company
2000 2nd Avenue
Detroit, MI 48226

Commercial Service Date: January 23, 1988
NB# 21085 (RPV)

Michigan Boiler Serial Number
M345962M

To:

U. S. Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

Prepared by: M. A. Brooks 7/17/03
Marc A. Brooks
Lead ISI Engineer, NDE Program Level III

Reviewed by: Richard M Hambleton 7/18/03
Richard M. Hambleton
Lead ISI Engineer, RVIM Program Level III

Reviewed by: 7/18/03
James Thorson
Supervisor, ISI

Approved by: 7-23-03
Tom Dong
Manager, Performance Engineering

TABLE OF CONTENTS

SECTION 1

INTRODUCTION

1.0 INTRODUCTION

1.1 This report represents a summary of the Inservice Inspection (ISI) activities performed at Detroit Edison Company's Fermi 2 Nuclear Power Plant for the Second Ten-year Inspection Interval beginning February 17, 2000.

Fermi 2 - Program B (ASME Section XI, IWA-2420):

First Inspection Interval (1980-W'81 addenda) (01/23/88 – 02/16/00)*

1. First Inspection Period (01/23/88 - 06/10/91)
   a. First Refueling Outage (09/03/89 - 12/16/89)
   b. Second Refueling Outage (03/30/91 - 06/10/91)
2. Second Inspection Period (06/11/91 - 01/03/95)
   a. Third Refueling Outage (09/12/92 - 11/07/92)
   b. Fourth Refueling Outage (04/12/94 - 01/03/95)*
3. Third Inspection Period (01/03/95 - 12/31/98)*
   a. Fifth Refueling Outage (09/27/96 - 01/03/97)
   b. Sixth Refueling Outage (09/07/98 - 10/29/98)

Second Inspection Interval (1989 Edition) (02/17/00 – 02/17/10)*

1. First Inspection Period (02/17/00 – 03/27/03)
   a. Seventh Refueling Outage (04/01/00 – 05/23/00)
   b. Eighth Refueling Outage (10/22/01 – 11/30/01)
2. Second Inspection Period (03/28/03 – Prior to RF-11, Fall 2006)
   a. Ninth Refueling Outage (03/28/03 - 05/10/03)

* Fermi 2 was in an extended outage that began on 12/25/93 following a Turbine/Generator failure and ended with the closing of the output breaker on 01/18/95. Because of the extended shutdown, the first inspection interval for Fermi 2 was extended by one additional year to 2/16/2000 as provided for in IWA-2430. The second inspection interval may be shortened by one year to maintain the interval pattern as required in IWA-2430(d).

1.2 Examinations were performed to satisfy the requirements (or portions thereof) of the following as applicable:

- American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, Division 1, "Rules for Inservice Inspection of Nuclear Power Plant Components," Inspection Program B as listed in the following Table A and Section 6 of this report.
- NUREG-0313, Revision 2, Technical Report on Material Selection and Processing Guidelines for BWR Coolant Pressure Boundary Piping.
- BWRVIP-75, Technical Basis for Revision of NRC Generic Letter 88-01 Inspection Schedules.
- Fermi 2 Technical Requirements Manual, 5.1 Snubbers.
- Augmented inspection of selected components in accordance with the requirements as listed in the following Table A and Section 6 of this report.
- BWROG NUREG-0619 Alternate Feedwater Nozzle Inspection Requirements, GE-NE-523-22-0292.

TABLE A

REQUIREMENT	DESCRIPTION	EXAM METHOD
	VESSELS	
Sect. XI, 1989 Edition Appendix VIII, 1995 Edition, 1996 Addenda for UT as applicable	Pressure Vessel (B-A, B-D, B-H, C-A, C-B)	Surface and/Automated Volumetric or Manual Volumetric
	Reactor Vessel Interior and welded attachments or core support structures (B-N-1, B-N-2)	Visual Examination
	Integral attachments for vessels (B-H, C-C)	Surface and/or Volumetric
	Pressure retaining bolting >2" diameter (B-G-1, C-D)	Surface and/or Volumetric
	Pressure retaining welds in CRD housing (B-O)	Surface and/or Volumetric
Sec. XI, 1992 Edition, 92 Addenda	Containment Inspection (IWE)	Visual
	PIPING	
Sect. XI, 1989 Edition Appendix VIII, 1995 Edition, 1996 Addenda for UT as applicable	Pressure retaining Piping Welds (B-F, B-J, C-F)	Surface and/or Manual Volumetric or Automated Volumetric
	Integral attachment for piping pumps and valves (B-K-1, C-C, Code Case N-509)	Surface and/or Volumetric
	OTHER	
1989 Edition	Pressure retaining partial penetration welds (B-E)	Visual Examination
	Pressure retaining bolting <2" diameter (B-G-2)	Visual Examination
	Pressure retaining bolting >2" diameter (B-G-1)	Visual Examination and /or Volumetric
	Pressure boundary component supports (F-A, Code Case N491-1)	Visual Examination
	Pump and Valve Internal Surfaces (B-L-2, B-M-2)	Visual Examination

TABLE A (continued)

REQUIREMENT	DESCRIPTION	EXAM METHOD
	PRESSURE TEST	
1989 Edition	Interval 2 Pressure Testing (B-P, C-H, and D-B, Code Case N-416-1, Code Case N-498-1)	Visual Examination
	AUGMENTED	
NUREG-0313, Rev. 2 and BWRVIP-75	Pressure retaining piping welds (B-F, B-J)	Manual Volumetric and/or Automated Volumetric
	Pressure retaining piping welds (Nonclassed)	Manual Volumetric
BWROG NUREG-0619 Alternative Feedwater Nozzle Inspections	Feedwater Nozzle Inner Blend Radii (GE-NE-523-A71-594)	Manual or Automated Volumetric - from outside surface
Fermi 2 Technical Requirements Manual 5.1	Safety Related Snubbers	Visual Examination
	Sampling of Safety Related Snubbers	Functional Testing
IE Notice 93-079	Core Shroud	Visual Examination
Generic Ltr. 94-03	Core Shroud Welds	Visual Examination
IEB 80-13	Core Spray and Spargers	Visual Examination
Vendor Recommendations		
SIL No. 459	Byron Jackson Recirculation Pump Shaft Cracking	Visual Examination
SIL No. 409	Incore Dry Tube Cracks	Remote Visual Examination
RICSIL No. 073	Incore Dry Tube Cracks	Remote Visual Examination
SIL No. 420	Jet Pump Sensing Lines and Support Brackets	Remote Visual Examination
SIL No. 433	Shroud Head Bolts	Remote Visual Examination

TABLE A (continued)

REQUIREMENT	DESCRIPTION	EXAM METHOD
	AUGMENTED (continued)	
SIL No. 462	Access Hole Cover Cracking	Remote Visual Examination
SIL No. 465	Jet Pump Inlet Mixer	Remote Visual Examination
SIL No. 474	Steam Dryer Channel Cracking	Remote Visual Examination
SIL No. 551	Jet Pump Riser Bracket	Remote Visual Examination
SIL No. 554	Top Guide Beams	Remote Visual Examination
SIL No. 559	Top Guide Inspections	Remote Visual Examinations
SIL No. 574	Jet Pump Adjusting Screw Tack Welds	Remote Visual Examination
SIL No. 588, Rev. 1	Top Guide and Core Plate Cracking	Remote Visual Examination
SIL No. 629	Inlet Mixer Wedge Damage in BWR Jet Pump Assemblies	Remote Visual Examination
BWRVIP-01/76 BWR Core Shroud Inspection and Flaw Evaluation Guidelines	Core Shroud	Remote Methods as in BWRVIP-03
BWRVIP-03 Reactor Vessel and Internal Examination Guidelines	Reactor Vessel Internals Components	Remote Visual Examination, Ultrasonic and Eddy Current
BWRVIP-07 Guidelines for Reinspection of BWR Core Shrouds	Core Shrouds	Remote Visual and Ultrasonic
BWRVIP-18 Core Spray Inspection and Evaluation (I&E) Guidelines	Core Spray Internals Piping and Spargers	Remote Visual Examination

TABLE A (continued)

REQUIREMENT	DESCRIPTION	EXAM METHOD
	AUGMENTED (continued)	
BWRVIP-25 Core Plate I&E Guidelines	Core Plate Components	Remote Visual Examination
BWRVIP-26 Top Guide I&E Guidelines	Top Guide Components	Remote Visual Examination
BWRVIP-27 BWR Standby Liquid Control System / Core Plate Differential Pressure I & E Guidelines	Core Differential Pressure and SLC Line Dissimilar Metal Nozzle Welds	Direct Visual
BWRVIP-38 Shroud Support I&E Guidelines	Shroud Support Components	Remote Visual Examination
BWRVIP-41 Jet Pump Assembly I&E Guidelines	Jet Pump Components	Remote Visual Examination
BWRVIP-47 BWR Lower Plenum I&E Guidelines	Incore Guide/Dry Tubes	Remote Visual Examination
BWVRIP-48 Vessel ID Attachment Weld I&E Guidelines	Vessel Internal Attachments	Remote Visual Examination
BWRVIP-49 Instrument Penetration I&E Guidelines	Instrument Penetrations	Remote Visual Examination

SECTION 2

SUMMARY OF ASME CLASS 1 & 2 AND AUGMENTED EXAMINATIONS

2.1 Interval 2, Period 2, RF-09 Examinations

RF-09 EXAM DATA BASE Class 1

Sys/Comp ID	Description	ISO	Exams	Procedure	Cal Std	Comp	L III	ANII	Cal Sheet	Data Sheet	Report	Loc/Az/El	Remarks
B-A Reactor Vessel	**Shell & Head Welds**		**Vol.**										
1-306J	Bottom Head Meridional	5360-5	UT	6	2667-59	4/6	4/8	4/16	UT-042 thru 045	UT-042 thru 045	RF-09-01	Bio, 300,604'	Manual RPV
1-319D	Closure Head Meridional	5360-5	UT	6	2667-58	3/31	4/2	4/11	UT-016 thru 018	UT-016 thru 018	RF-09-02	Refuel Flr.	Manual RPV
15-308B	Shell Longitudinal Weld	5360-5	UT	7	2667-62	4/4	4/10	4/15	VES.60.IN	186 Pages	RF-09-05	DW,172,620'	Auto UT
2-307C	Shell Longitudinal Weld	5360-5	UT	7	2667-60	4/4	4/7	4/14	VES.60.IN	76 Pages	RF-09-08	DW,218,610'	Auto UT
2-308B	Shell Longitudinal Weld	5360-5	UT	7	2667-60	4/5	4/9	4/14	VES.60.IN	27 Pages	RF-09-09	DW,180,646'	Auto UT
4-319	Closure Head Circ Weld	5360-5	UT	6	2667-58	4/9	4/10	4/16	UT-048 thru 050, UT-063 thru 069	UT-048 thru 050, UT-063 thru 069	RF-09-13	Refuel Flr.	Manual RPV
2-307A	Shell Longitudinal Weld	5360-5	UT	7	2667-60	4/8	4/12	4/14	VES.60.IN	137 Pages	RF-09-106	DW,340,610'	Length Coverage 99%
B-D Reactor Vessel	**Nozzle to Vessel Welds**		**Vol.**										
13-314E	Recirc Inlet Nozzle	5361-5	UT	8	2667-60	4/6	4/11	4/14	NOZ.60.IN	34 Pages	RF-09-03	DW,150,615'	Auto UT
13-314F	Recirc Inlet Nozzle	5361-5	UT	8	2667-60	4/7	4/10	4/14	NOZ.60.IN	50 Pages	RF-09-04	DW,210,615' Auto UT	Auto UT
15-315	CRD Return Nozzle	5361-5	UT	6 & 20	2667-60	4/8	4/9	4/14	UT-051 thru 055	UT-051 thru 055	RF-09-06	DW,145,638'	Manual RPV
4-316C	Feedwater Nozzle	5361-5	UT	8	2667-60	4/7	4/11	4/14	NOZ.60.IN	33 Pages	RF-09-12	DW,150,642'	Auto UT
B-D Reactor Vessel	**Nozzle Inner Bore Region**		**Vol.**										
13-314D IRS	Recirc Inlet Nozzle	5361-5	VT	15	1-mil wire	*4/16	*4/27	*5/13	N/A	N/A	N/A	Invess,120,	*Comp. Under Job 1109030328
13-314E IRS	Recirc Inlet Nozzle	5361-5	VT	15	1-mil wire	*4/18	*4/27	*5/13	N/A	N/A	N/A	Invess,150	*Comp. Under Job 1109030328

Sys/Comp ID	Description	ISO	Exams	Procedure	Cal Std	Comp	L III	ANII	Cal Sheet	Data Sheet	Report	Loc/Az/El	Remarks
13-314F IRS	Recirc Inlet Nozzle	5361-5	VT	15	1-mil wire	*4/18	*4/27	*5/13	N/A	N/A	N/A	Invess,210	*Comp. Under Job 1109030328
13-314G IRS	Recirc Inlet Nozzle	5361-5	VT	15	1-mil wire	*4/16	*4/27	*5/13	N/A	N/A	N/A	Invess,240	*Comp. Under Job 1109030328
13-314K IRS	Recirc Inlet Nozzle	5361-5	VT	15	1-mil wire	*4/16	*4/27	5/13*	N/A	N/A	N/A	Invess,330	*Comp. Under Job 1109030328
B-F Class 1-Piping	**RIISI Welds**		**Vol.**										
N-9	CRD Return Cap (IGSCC)	5361-5	UT	13	CS-48, INC-49	4/8	4/14	4/16	UT-059 thru 062	UT-059 thru 062	RF-09-47	DW,145,638'	RIISI Coverage
2-303G	RRI Noz to SE (IGSCC)	5356-5	UT	10	SS-56/CSCL-54	4/2	4/5	4/11	APC-001 thru 006	APD-001	RF-09-07	DW,240,615'	RIISI Coverage
B-J Class 1-Piping	**RIISI Welds**		**Vol.**										
FW-RD-2-A16	B31 12" SE-P (IGSCC,CRC)	5356-5	UT	10	SS-17	4/3	4/5	4/14	APC-008 thru 011	APD-002	RF-09-44	DW,240,615	RIISI Coverage
SW-RS-2-A2-W1	B31 28" Pipe-El (IGSCC)	5357-5	UT	4	SS-3	4/4	4/4	4/13	UT-036,UT-037	UT-036,UT-037	RF-09-69	DW,0,578'	RIISI Coverage
FW-E11-2299-2WF3	RHR 20" Tee-Pipe	2299-5	UT	3	CS-12	4/5	4/5	4/13	UT-040	UT-040	RF-09-29	DW,175,597	
SW-E21-3053-3WN	Core Spray 12" El-Pipe	3053-5	UT	3	CS-15	4/8	4/10	4/15	UT-071	UT-071	RF-09-57	DW,120,637'	
SW-E21-3053-3WP	Core Spray 12" Pipe-El	3053-5	UT	3	CS-15	4/8	4/10	4/15	UT-070	UT-070	RF-09-58	DW,120,636'	
FW-E51-2192-1W2	RCIC 6" El-Pipe	2192-5	UT	3	CS-22	4/8	4/10	4/16	UT-056 thru 058	UT-056 thru 058	RF-09-40	DW,42,598'	
FW-E51-2192-2W3	RCIC 6" Pipe-E.	2192-5	UT	3	CS-22	4/11	4/12	4/15	UT-073 thru 075	UT-073 thru 075	RF-09-60	DW,355,598'	
SW-N21-2336-1WD	RCIC 20" Sweep-Pipe	3536-5	UT	3	CS-12	4/2	4/3	4/16	UT-029,UT-030	UT-029,UT-030	RF-09-63	Stm,10,586'	
SW-N21-2336-1WU	RCIC 20" Pipe-Tee	3536-5	UT	3	CS-12	4/2	4/3	4/6	UT-031	UT-031	RF-09-65	Stm,10,590'	
SW-N21-2336-1WL	FW (TASCS) 20" Tee-Pipe	3536-5	UT	3	CS-12	4/3	4/3	4/12	UT-025	UT-025	RF-09-64	Stm,10,594'	RIISI Coverage
SW-N21-2336-3WC	RCIC 20" El-Tee	3536-5	UT	3	CS-12	4/5	4/6	4/13	UT-038	UT-038	RF-09-66	DW,330,608'	
FW-N21-2336-3W4	RCIC 12" Tee-El	3536-5	UT	3	CS-15	4/5	4/6	4/14	UT-039	UT-039	RF-09-43	DW,330,608'	

Sys/Comp ID	Description	ISO	Exams	Procedure	Cal Std	Comp	L III	ANII	Cal Sheet	Data Sheet	Report	Loc/Az/El	Remarks
B-G-1 Bolting	**Greater Than 2"**												
326-02 (Closure Nuts)	1/3 of locations (1-22)	5362-5	MT	2	N/A	4/5	4/5	4/13	N/A	MT-013,VT-029	RF-09-10	Refuel Flr.	
Threads in Flange	1/3 of locations (1-22)	5362-5	UT	9	RPV & CSCL-52	3/31	4/2	4/4	UT-015	UT-015	RF-09-70	RPV Cavity	complete prior to flood up
326-03 (Closure Washers)	1/3 of locations (1-22)	5362-5	VT-1	16	N/A	4/5	4/5	4/14	N/A	VT-028	RF-09-11	Refuel Flr.	
Base Scope													
B-G-2 Bolting	**2" and Less**												
FBC-E41-2297-01		2297-5	VT-1	16	N/A	4/5	4/10	4/17	N/A	VT-032	RF-09-25	DW,51,595'	AI bolting exams completed under surveillance 1105030100
B31-F023A-VBB		5357-5	VT-1	16	N/A	4/3	4/4	4/17	N/A	VT-027	RF-09-17	DW,342,574'	
B31-F031A-VBB		5357-5	VT-1	16	N/A	4/3	4/4	4/17	N/A	VT-026	RF-09-18	DW,290,578	
E11-F067-VBB		2299-5	VT-1	16	N/A	4/5	4/10	4/17	N/A	VT-031	RF-09-21	DW,163,595'	
E11-F009-VBB		2299-5	VT-1	16	N/A	4/5	4/10	4/17	N/A	VT-030	RF-09-20	DW,163,600'	CARD 03-16366
E21-F005A-VBB		3052-5	VT-1	16	N/A	3/29	3/29	4/17	N/A	VT-025	RF-09-22	RB2,C13,633	
E21-F005B-VBB		3053-5	VT-1	16	N/A	3/29	3/29	4/17	N/A	VT-024	RF-09-23	RB2,C11,632	
E51-F007-VBB		2192-5	VT-1	16	N/A	4/9	4/10	4/17	N/A	VT-048	RF-09-24	DW,360,583'	
G33-F004-VBB		3096-5	VT-1	16	N/A	4/10	4/11	4/17	N/A	VT-049	RF-09-46	RB2,C13,624	
B21-F032A-VBB		3537-5	VT-1	16	N/A	4/11	4/12	4/17	N/A	N/A	RF-09-16	Stm,350,594'	Initial Scope Delete (RF09-209), Examined as part of sample expansion

Sys/Comp ID	Description	ISO	Exams	Procedure	Cal Std	Comp	L III	ANII	Cal Sheet	Data Sheet	Report	Loc/Az/El	Remarks
B21-F010B-VBB		3536-5	VT-1	16	N/A	4/14	4/16	4/17	N/A	N/A	RF-09-14	DW,10,603'	Scope Delete RF09-209
B21-F011B-VBB		3536-5	VT-1	16	N/A	4/9	4/10	4/17	N/A	VT-047	RF-09-15	DW,10,594	CARD 03-16370
Initial Sample Expansion													
B-G-2 Bolting	**2" and Less**												
E11-F015B-VBB		2327-5	VT-1	16	N/A	4/9	4/10	4/17	N/A	VT-046	RF-09-89		All bolting completed under surveillance 1105030100
E21-F006A-VBB		3052-5	VT-1	16	N/A	4/9	4/10	4/17	N/A	VT-045	RF-09-95		
E21-F006B-VBB		3053-5	VT-1	16	N/A	4/9	4/10	4/17	N/A	VT-044	RF-09-96		
E21-F007A-VBB		3052-5	VT-1	16	N/A	4/9	4/10	4/17	N/A	VT-043	RF-09-97		
E21-F007B-VBB		3053-5	VT-1	16	N/A	4/9	4/10	4/17	N/A	VT-042	RF-09-98		
E41-F002-VBB		2297-5	VT-1	16	N/A	4/8	4/10	4/17	N/A	VT-039	RF-09-79		
E41-F003-VBB		2297-5	VT-1	16	N/A	4/8	4/10	4/17	N/A	VT-038	RF-09-78		
E41-F006-VBB		3537-5	VT-1	16	N/A	4/8	4/10	4/17	N/A	VT-037	RF-09-77		
E51-F008-VBB		2192-5	VT-1	16	N/A	4/8	4/10	4/17	N/A	VT-035	RF-09-75		
E51-F013-VBB		3536-5	VT-1	16	N/A	4/8	4/10	4/17	N/A	VT-036	RF-09-76		
G33-F001-VBB		3096-5	VT-1	16	N/A	4/9	4/10	4/17	N/A	VT-041	RF-09-99		
G33-F101-VBB		3096-5	VT-1	16	N/A	4/9	4/10	4/17	N/A	VT-040	RF-09-101		
G33-F121-VBB		3536-5	VT-1	16	N/A	4/8	4/10	4/17	N/A	VT-034	RF-09-74		
G33-F220-VBB		3536-5	VT-1	16	N/A	4/8	4/10	4/17	N/A	VT-033	RF-09-73		

Sys/Comp ID	Description	ISO	Exams	Procedure	Cal Std	Comp	L III	ANII	Cal Sheet	Data Sheet	Report	Loc/Az/El	Remarks
Second Sample Expansion													
B-G-2 Bolting	**2" and Less**												
B21-F010A-VBB		3537-5	VT-1	16	N/A	4/11	4/12	4/17	N/A	VT-051	RF-09-80		Completed under surveillance Job 1105030100
B21-F010B-VBB		3536-5	VT-1	16	N/A	4/14	4/15	4/17	N/A	VT-069	RF-09-81		
B21-F011A-VBB		3537-5	VT-1	16	N/A	4/11	4/12	4/17	N/A	VT-052	RF-09-82		
B21-F032A-VBB		3537-5	VT-1	16	N/A	4/11	4/12	4/17	N/A	VT-053	RF-09-83		
B21-F032B-VBB		3536-5	VT-1	16	N/A	4/11	4/12	4/17	N/A	VT-054	RF-09-84		
B21-F076A-VBB		3537-5	VT-1	16	N/A	4/11	4/12	4/17	N/A	VT-055	RF-09-85		
B21-F076B-VBB		3536-5	VT-1	16	N/A	4/11	4/12	4/17	N/A	VT-056	RF-09-86		
E11-F008-VBB		2299-5	VT-1	16	N/A	4/14	4/15	4/17	N/A	VT-068	RF-09-87		CARD 03-16372
E11-F015A-VBB		2298-5	VT-1	16	N/A	4/11	4/12	4/17	N/A	VT-057	RF-09-88		
E11-F050A-VBB		2298-5	VT-1	16	N/A	4/11	4/12	4/17	N/A	VT-058	RF-09-90		
E11-F050B-VBB		2327-5	VT-1	16	N/A	4/11	4/12	4/17	N/A	VT-059	RF-09-91		
E11-F060A-VBB		2298-5	VT-1	16	N/A	4/11	4/12	4/17	N/A	VT-060	RF-09-92		
E11-F060B-VBB		2327-5	VT-1	16	N/A	4/11	4/12	4/17	N/A	VT-061	RF-09-93		CARD 03-16371
E11-F608-VBB		2299-5	VT-1	16	N/A	4/11	4/12	4/17	N/A	VT-062	RF-09-94		
G33-F100-VBB		5351-5	VT-1	16	N/A	4/11	4/12	4/17	N/A	VT-063	RF-09-100		
G33-F102-VBB		5351-5	VT-1	16	N/A	4/11	4/12	4/17	N/A	VT-064	RF-09-102		
G33-F106-VBB		5351-5	VT-1	16	N/A	4/11	4/12	4/17	N/A	VT-065	RF-09-103		
G33-F120-VBB		3536-5	VT-1	16	N/A	4/11	4/12	4/17	N/A	VT-066	RF-09-104		

Sys/Comp ID	Description	ISO	Exams	Procedure	Cal Std	Comp	L III	ANII	Cal Sheet	Data Sheet	Report	Loc/Az/El	Remarks
B-G-2 Bolting	**2" and Less**												
CRD Flange Bolts	4219 (1) 3431 (2)	5363-5	VT-1	16	N/A	4/9	4/12	4/17	N/A	VT-050	RF-09-105	Drywell, Undervessel	
CRD Bolting	New CRD Bolting 1-184	N/A	VT-1	16	N/A	3/27	3/28	4/16	N/A	VT-001 thru VT-023	RF-09-72		
B-P	**Pressure Retaining Boundary**	M-4536	VT-2	43.000.005	N/A	4/30	4/30	4/30	N/A	0975030430	03-022	Various	System Leakage Test

RF-09 EXAM DATA BASE
Class 2

Sys/Comp ID	Description	ISO	Exams	Procedure	Cal Std	Comp	L III	ANII	Cal Sheet	Data Sheet	Report	Loc/Az/El	Remarks
C-C Vessel	**Intregal Attachment**		**Vol.**										
SW-E11-D2-HXS-13	RHR HX B	5370-5	MT	2	N/A	4/12	4/14	4/15	N/A	MT-018	RF-09-53	RB2,B9,625'	Division 2 System
SW-E11-D2-HXS-14	RHR HX B	5370-5	MT	2	N/A	4/12	4/14	4/15	N/A	MT-017	RF-09-54		
SW-E11-D2-HXS-15	RHR HX B	5370-5	MT	2	N/A	4/12	4/14	4/16	N/A	MT-016	RF-09-55		
SW-E11-D2-HXS-16	RHR HX B	5370-5	MT	2	N/A	4/12	4/14	4/16	N/A	MT-019	RF-09-56		
C-F-1 Augmented	**NRC Commitment**		**Vol.**										
FW-C41-2979-63S64	SLC weld 2" El -Pipe	2979-5	PT	1	N/A	3/24	3/26	4/4	N/A	PT-001	RF-09-26	RB3, 652,E11	
FW-C41-2979-64S65	SLC weld 2" Pipe-El	2979-5	PT	1	N/A	3/24	3/26	4/4	N/A	PT-002	RF-09-27	RB3, 652,E11	
FW-C41-5058-54S55	SLC weld 2"Pipe-Reducer	5374-5	PT	1	N/A	3/24	3/26	4/4	N/A	PT-003	RF-09-28	RB3,F10,661	
C-F-2	**Circumferential Weld**		**Vol.**										
SW-C11-2113-172-A	CRD SDV ' Pipe-Tee	5375-5	MT	2	N/A	3/29	4/1	4/6	N/A	MT-006	RF-09-48	RB1,C10,597'	
SW-C11-2113-172-A		5375-5	UT	3	CS-20	3/29	4/1	4/6	UT-007,UT-008	UT-007,UT-008	RF-09-48		
SW-E11-3035-7WB	RHR 6" El-Pipe	3035-5	MT	2	N/A	3/29	3/30	4/4	N/A	MT-005	RF-09-49	Tor,180,578	
FW-E11-3151-3WF2	RHR 24" Tee-El	3151-5	MT	2	N/A	4/12	4/14	4/16	N/A	MT-020	RF-09-30	HxRm,C10,605'	Division 2 System
FW-E11-3151-3WF2		3151-5	UT	3	CS-43	4/12	4/14	4/16	UT-080,UT-081	UT-080,UT-081	RF-09-30		
SW-E11-3154-4WC	RHR 24" El-Tee	3154-5	MT	2	N/A	3/30	3/30	4/6	N/A	MT-007	RF-09-50	Tor,C17,543'	
SW-E11-3154-4WC		3154-5	UT	3	PDI-Alt-CS1	3/30	4/2	4/6	UT-009 thru 012	UT-009 thru 012	RF-09-50		
FW-E11-3154-13WO	RHR 24" Pipe-Pump	3154-5	MT	2	N/A	3/31	4/2	4/13	N/A	MT-011	RF-09-31	RBSB,A15,541'	
FW-E11-3154-13WO		3154-5	UT	3	PDI-Alt-CS1	4/1	4/2	4/13	UT-019,UT-021, UT-022	UT-019,UT-021, UT-022	RF-09-31		
FW-E11-3158-1W2	RHR 24" Pipe-El	3158-5	MT	2	N/A	3/30	3/30	4/6	N/A	MT-008	RF-09-32	HxRm,C17,593'	
FW-E11-3158-1W2		3158-5	UT	3	CS-43	3/31	3/31	4/6	UT-014	UT-014	RF-09-32		

Sys/Comp ID	Description	ISO	Exams	Procedure	Cal Std	Comp	L III	ANII	Cal Sheet	Data Sheet	Report	Loc/Az/El	Remarks
FW-E11-3158-9WF2	RHR 20" Pipe-El	3158-5	MT	2	N/A	3/30	4/1	4/14	N/A	MT-009	RF-09-33	HxRm,B17,635'	
FW-E11-3158-9WF2		3158-5	UT	3	CS-42	3/31	4/1	4/14	UT-013	UT-013	RF-09-33		
SW-E11-3177-9WE	RHR 20"El-Pipe	3177-5	MT	2	N/A	4/3	4/4	4/6	N/A	MT-012	RF-09-52	Tor,B10,570'	
SW-E11-3177-9WE		3177-5	UT	3	CS-42	4/3	4/4	4/6	UT-035	UT-035	RF-09-52		
FW-E21-3148-7W0	Core Spray 12" Red-Pump	3148-5	MT	2	N/A	3/31	4/2	4/14	N/A	MT-010	RF-09-34	RBSB,G17,541'	
FW-E21-3148-7W0		3148-5	UT	3	PDI-Alt-CS1	4/1	4/2	4/14	UT-020	UT-020	RF-09-34		
FW-E41-3162-11WF1	HPCI 16" Pipe-Tee	3162-5	VT-1	17	N/A	3/25	3/28	4/4	N/A	N/A	RF-09-35	Tor,G11,564'	
FW-E41-3162-11WF4	HPCI 16" Tee-Reducer	3162-5	VT-1	17	N/A	3/25	3/28	4/4	N/A	N/A	RF-09-36	Tor,G11,564'	
FW-E41-3162-11WF5	HPCI 10" Reducer-Reducer	3162-5	VT-1	17	N/A	3/25	3/28	4/4	N/A	N/A	RF-09-37	Tor,G11,564'	
FW-E41-3167-OW1	HPCI 10" Pump-Pipe	3167-5	MT	2	N/A	3/26	3/28	4/11	N/A	MT-001	RF-09-38	HPCI Skid, 546'	
FW-E41-3167-OW1		3167-5	UT	3	CS-50	3/26	3/28	4/11	UT-002	UT-002	RF-09-38		
FW-E41-3169-2W0	HPCI 10" Pipe-Valve	3169-5	MT	2	N/A	3/26	3/29	4/14	N/A	MT-002	RF-09-39	CRD,G11,569'	
FW-E41-3169-2W0		3169-5	UT	3	CS-36	3/27	3/29	4/14	UT-003,UT-004	UT-003,UT-004	RF-09-39		
SW-E41-5373-GW3	HPCI 12"El-Pipe	5373-5	MT	2	N/A	3/27	3/30	4/12	N/A	MT-003	RF-09-59	HPCI Skid, 546'	
SW-E41-5373-GW3		5373-5	UT	3	PDI-Alt-CS1	3/27	3/30	4/12	UT-005,UT-006	UT-005,UT-006	RF-09-59		
SW-N30-3258-7WK	Main Steam 26" Pipe-RedEl	3258-5	MT	2	N/A	4/6	4/10	4/13	N/A	MT-014	RF-09-67	Stm,F12,589'	
SW-N30-3258-7WK		3258-5	UT	3	CS-5	4/6	4/10	4/13	UT-046,UT-072	UT-046,UT-072	RF-09-67		
SW-N30-3258-7WKLU	Main Steam 26" Long Seam	3258-5	MT	2	N/A	4/6	4/10	4/15	N/A	MT-015	RF-09-68	Stm,F12,589'	
SW-N30-3258-7WKLU		3258-5	UT	3	CS-5	4/6	4/10	4/15	UT-047	UT-047	RF-09-68		
C-F-2	**Branch Connections**		**Vol.**										
SW-E11-3160-1WD	RHR 18" Weldolet	3160-5	MT	2	N/A	3/29	3/30	4/4	N/A	MT-004,PT-005	RF-09-51	Tor,B15,578'	

RF-09 EXAM DATA BASE Augmented

Sys/Comp ID	Description	ISO	Exams	Procedure	Cal Std	Comp	L III	ANII	Cal Sheet	Data Sheet	Report	Loc/Az/El	Remarks
ANSI B31.1	GL 88-01 Category D		Vol.			UT							
FW-N20-3105-0W23	20" EI-SE Htr 4N, Upper Nozz	3105-1	PT/UT	1 / 13	SSCL-88	4/16	4/18	N/A	UT-082 thru 084	UT-082 thru 084, PT-008	RF-09-41	TB2,P12,62 4'	PT on ID. Also PDI-UT-10 DM
SW-N20-03-B011-BWSE	20" Nozz-SE 4N, Upper Nozz	3105-1	PT/UT	1 / 13	SSCL-88	4/16	4/18	N/A	UT-085 thru 087	UT-085 thru 088, PT-006	RF-09-62	TB2,P12,62 4'	PT on ID. Also PDI-UT-10 DM
FW-N20-3105-22WO	20" EI-SE Htr 4N, Lower Nozz	3105-1	PT/UT	1 / 13	SSCL-88	4/15	4/18	N/A	UT-091 thru 093	UT-091 thru 094	RF-09-42	TB2,P12,61 5'	PDI-UT-10 DM
SW-N20-03-B011-AWSE	20" Nozz-SE 4N, Lower Nozz	3105-1	PT/UT	1 / 13	SSCL-88	4/15	4/18	N/A	UT-088 thru 090	UT-088 thru 091	RF-09-61	TB2,P12,61 5'	PDI-UT-10 DM

Procedure	Reference Code
39.NDE.001	1
39.NDE.002	2
PDI-UT-1	3
PDI-UT-2	4
PDI-UT-5	5
GE-UT-300	6
GE-UT-704	7
GE-UT-705	8
GE-UT-308	9
GE-UT-209	10
GE-UT-236	11
GE-UT-504	12
PDI-UT-10	13
43.000.03/04	14
43.000.017	15
43.000.014	16
43.000.019	17
43.000.013	18
GE-UT-309	19
GE-UT-311	20

2.2 Interval 2, Period 1, RF-08 Examinations

RF-08 EXAM DATA BASE
Class 1

Sys/Comp ID	Description	ISO	Exams	Procedure	Cal Std	Comp	L III	ANII	Cal Sheet	Data Sheet	Report	Loc/Az/El	Remarks
B-A Reactor Vessel	**Shell Welds**		**Vol.**										
1-308A		5360-5	UT	8	2667-62-1	15-Nov	17-Nov	19-Nov	PDI-254-C01 PDI-6-C25, C26	PDI-254-C01 UT23, UT24, UT25, UT26, 27	R8-96	DW,52,552	
1-308B		5360-5	UT	8	2667-62-1	15-Nov	17-Nov	19-Nov	PDI-254-C01 PDI-6-C27, C28	PDI-254-C01 UT28, UT29, UT30, UT31	R8-97	DW,142,552	
15-308C		5360-5	UT	8	2667-62-1	14-Nov	17-Nov	19-Nov	PDI-254-C01	PDI-254-C01	R8-98	DW,262,244	
2-307A		5360-5	UT	8	2667-60-1	12-Nov	17-Jan	19-Nov	PDI-254-C02	PDI-254-C02	R8-99	DW,339,122	
B-A Reactor Vessel	**Circ Head Welds**		**Vol.**										
4-319	2-319C to 2-319E 40%	5360-5	UT	6	2667-58-1	1-Nov	5-Nov	17-Nov	PDI-6-C11, C12	UT09, UT10	R8-47	Refuel Flr.	
6-306	180 deg. to 360 deg.	5360-5	UT	6	2667-59-1	5-Nov	7-Nov	15-Nov	PDI-6-C13, C14	UT11, UT12	R8-57	Refuel Flr.	

Sys/Comp ID	Description	ISO	Exams	Procedure	Cal Std	Comp	L III	ANII	Cal Sheet	Data Sheet	Report	Loc/Az/El	Remarks
B-A Reactor Vessel	**Meridonal Head Welds**		**Vol.**										
2-319A	Top Head	5360-5	UT	6	2667-58-1	31-Oct	6-Nov	17-Nov	PDI-6-C05, C06	UT05, UT06	R8-44	Refuel Flr.	
2-319B	Top Head	5360-5	UT	6	2667-58-1	31-Oct	6-Nov	17-Nov	PDI-6-C07, C08	UT07	R8-45	Refuel Flr.	
2-319C	Top Head	5360-5	UT	6	2667-58-1	2-Nov	6-Nov	17-Nov	PDI-6-C09, C10	UT08	R8-46	Refuel Flr.	
1-319B	Top Head	5360-5	UT	6	2667-58-1	30-Oct	5-Nov	17-Nov	PDI-6-C01, C02	UT01, UT02	R8-42	Refuel Flr.	
1-319H	Top Head	5360-5	UT	6	2667-58-1	30-Oct	5-Nov	17-Nov	PDI-6-C03, C04	UT03, UT04	R8-43	Refuel Flr.	
1-306A	Bottom Head	5360-5	UT	6	2667-59-1	6-Nov	7-Nov	17-Nov	PDI-6-C15, C16	UT13, UT14	R8-60	Bio, 0deg	
1-306D	Bottom Head	5360-5	UT	6	2667-59-1	6-Nov	7-Nov	18-Nov	PDI-6-C17, C18	UT15, UT16	R8-61	Bio, 120deg	
1-306E	Bottom Head	5360-5	UT	6	2667-59-1	6-Nov	7-Nov	18-Nov	PDI-6-C19, C20	UT17, UT18	R8-62	Bio, 144 deg	
1-306G	Bottom Head	5360-5	UT	6	2667-59-1	6-Nov	7-Nov	18-Nov	PDI-6-C21, C22	UT19, UT20	R8-63	Bio, 225deg	
1-306K	Bottom Head	5360-5	UT	6	2667-59-1	6-Nov	7-Nov	18-Nov	PDI-6-C23, C24	UT21, UT22	R8-64	Bio, 335deg	
B-A Reactor Vessel	**Shell to Flange Welds**		**Vol.**										
13-308	Partial from shell side	5360-5	UT	7	2667-62-1	13-Nov	16-Nov	16-Nov	ISI-210-C46, C47, C48	UT25, UT26	R8-95	DW, 723°	120 degrees
13-308	Partial from flange	5360-5	UT	9	CSCI-52-FER	28-Oct	30-Oct	17-Nov	ISI-54-C01	UT01	R8-12	Vessel Cav.	180 degrees
B-A Reactor Vessel	**Head to Flange**		**Vol. / Surf.**										
3-319	1/3 of weld length	5360-5	UT	7	2667-58-1	1-Nov	6-Nov	17-Nov	ISI-210-C01, C02, C03	UT01, UT02, UT03, UT04, UT05, UT11	R8-41	Refuel Flr.	
3-319	1/3 of weld length	5360-5	MT	2	N/A	30-Oct	6-Nov	17-Nov	N/A	MT-023	R8-41	Refuel Flr.	

Sys/Comp ID	Description	ISO	Exams	Procedure	Cal Std	Comp	L III	ANII	Cal Sheet	Data Sheet	Report	Loc/Az/El	Remarks
B-D Reactor Vessel	**Nozzle to Vessel Welds**		**Vol.**										
8-316A	Main Steam Nozzle	5361-5	UT	7	2667-62-1	8-Nov	9-Nov	19-Nov	ISI-210-C31, C32, C33	UT19	R8-76	DW,71,655	
8-316-B	Main Steam Nozzle	5361-5	UT	7	2667-62-1	8-Nov	9-Nov	19-Nov	ISI-210-C34, C35, C36	UT20	R8-77	DW,109,655	
4-316A	Feedwater Nozzle	5361-5	UT	7	2667-62-1	8-Nov	9-Nov	19-Nov	ISI-210-C28, C29, C30	UT17, UT18	R8-75	DW,30,642	
4-316B	Feedwater Nozzle	5361-5	UT	7	2667-62-1	7-Nov	8-Nov	18-Nov	ISI-210-C22, C23, C24	UT15	R8-65	DW,90,642	
4-316D	Feedwater Nozzle	5361-5	UT	7	2667-62-1	8-Nov	10-Nov	18-Nov	ISI-210-C37, C38, C39	UT21, UT22	R8-78	DW,210,642	
14-316B	Core Spray Nozzle	5361-5	UT	7	2667-62-1	7-Nov	8-Nov	18-Nov	ISI-210-C25, C26, C27	UT16	R8-66	DW,240,641	
13-314A	Recirc Inlet Nozzle	5361-5	UT	7	2667-60-1	5-Nov	7-Nov	17-Nov	ISI-210-C10, C11, C12	UT09	R8-53	DW,30,615	
13-314B	Recirc Inlet Nozzle	5361-5	UT	7	2667-60-1	5-Nov	7-Nov	17-Nov	ISI-210-C19, C20, C21	UT14	R8-59	DW,60,615	
13-314D	Recirc Inlet Nozzle	5361-5	UT	7	2667-60-1	6-Nov	7-Nov	17-Nov	ISI-210-C16, C17, C18	UT13	R8-58	DW,120,615	
13-314G	Recirc Inlet Nozzle	5361-5	UT	7	2667-60-1	4-Nov	7-Nov	17-Nov	ISI-210-C04, C05, C06	UT06, UT07, UT08	R8-51	DW,240,615	
13-314K	Recirc Inlet Nozzle	5361-5	UT	7	2667-60-1	5-Nov	7-Nov	17-Nov	ISI-210-C13, C14, C15	UT10	R8-54	DW, 330,615	
5-314A	Recirc Suction Nozzle	5361-5	UT	7	2667-60-1	12-Nov	14-Nov	15-Nov	ISI-210-C43, C44, C45	UT24	R8-93	DW, 0,614	
19-314B	JPI Nozzle	5361-5	UT	7	2667-60-1	9-Nov	10-Nov	17-Nov	ISI-210-C40, C41, C42	UT23	R8-82	DW,280,612	
B-D Reactor Vessel	**Nozzle Inside Radius**		**Vol.**									Same as Nozzle to vessel above	
8-316A		5361-5	UT / VT	13 or 15	N/A	IVVI	18-Nov	30-Nov	N/A	Completed under Surv. 43.000.017	01-034	DW,71,655	
8-316-B		5361-5	UT / VT	13 or 15	N/A	IVVI	18-Nov	30-Nov	N/A	Completed under Surv. 43.000.017	01-034	DW,109,655	

Sys/Comp ID	Description	ISO	Exams	Procedure	Cal Std	Comp	L III	ANII	Cal Sheet	Data Sheet	Report	Loc/Az/El	Remarks
B-D Reactor Vessel	**Nozzle Inside Radius**		**Vol. / VT**										
4-316A		5361-5	UT	11	N/A	8-Nov	13-Nov	17-Nov	ISI-246-C01	ISI-246-C01	R8-86	DW,30,642	43.000.017
4-316B		5361-5	UT	11	N/A	8-Nov	13-Nov	17-Nov	ISI-246-C01	ISI-246-C01	R8-87	DW,90,642	
4-316D		5361-5	UT	11	N/A	7-Nov	13-Nov	17-Nov	ISI-246-C01	ISI-246-C01	R8-88	DW,210,642	
14-316B		5361-5	UT / VT	13 or 15	N/A	1-Nov	13-Nov	30-Nov	N/A	Completed under Surv. 43.000.017	01-034	DW,240,641	
15-315		5361-5	UT / VT	13 or 15	N/A	1-Nov	13-Nov	30-Nov	N/A	Completed under Surv. 43.000.017	01-034	DW,150,638	
13-314A		5361-5	UT / VT	13 or 15	N/A	1-Nov	18-Nov	30-Nov	N/A	Completed under Surv. 43.000.017	01-034	DW,30,615	
13-314B		5361-5	UT / VT	13 or 15	N/A	1-Nov	18-Nov	30-Nov	N/A	Completed under Surv. 43.000.017	01-034	DW,60,615	
13-314D		5361-5	UT / VT	13 or 15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	DW,120,615	Reshceduled
13-314G		5361-5	UT / VT	13 or 15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	DW,240,615	Reshceduled
13-314K		5361-5	UT / VT	13 or 15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	DW, 330,615	Reshceduled
5-314A		5361-5	UT / VT	13 or 15	N/A	1-Nov	18-Nov	30-Nov	N/A	Completed under Surv. 43.000.017	01-034	DW, 0,614	
19-314B		5361-5	UT / VT	13 or 15	N/A	1-Nov	18-Nov	30-Nov	N/A	Completed under Surv. 43.000.017	01-034	DW,280,612	
B-D Reactor Vessel	**Nozzle Inner Bore Region**		**Vol.**										
4-316A IBR	FW Nzz Inner Bore Region	5361-5	UT	11	70287	8-Nov	13-Nov	17-Nov	ISI-246-C01	ISI-246-C01	R8-86	DW,30,642	
4-316B IBR	FW Nzz Inner Bore Region	5361-5	UT	11	70287	8-Nov	13-Nov	17-Nov	ISI-246-C01	ISI-246-C01	R8-87	DW,90,642	
4-316D IBR	FW Nzz Inner Bore Region	5361-5	UT	11	70287	7-Nov	13-Nov	17-Nov	ISI-246-C01	ISI-246-C01	R8-88	DW,210,642	

	Description	ISO	Exams	Procedure	Cal Std	Comp	L III	ANII	Cal Sheet	Data Sheet	Report	Loc/Az/El	Remarks
B-F & B-J Class 1 Piping	**RIISI Welds**												
N5B	12" CS SE to Nzz (DM)	3052-5	UT	12	CS-44/IN-45	6-Nov	16-Nov	19-Nov	PDI-2-C14 UNIXD-C03, C04	UT13, UT14 UNIXD-C03, C04	R8-79	DW,240,641	
SW-E21-3052-4W0X	10" CS Pipe to SE (DM)	3052-5	UT	12	CS-18/IN-45	7-Nov	16-Nov	19-Nov	PDI-2-C13 UNIXD-C01, C02	UNIXD-C01, C02	R8-71	DW,240,641	
FW-RD-2-A9	28" Tee to Cross	5357-5	UT	4	SS-30	3-Nov	5-Nov		PDI-2-C06	UT07	R8-49	DW,270,613	
FW-E11-2298-6W0	24" Pipe to Tee	2298-5	UT	4	SS-8	2-Nov	2-Nov	17-Nov	PDI-2-C02	UT04	R8-39	DW,270,600	
SW-E11-2298-6WC	24" Pipe to Pipe (DM)	2298-5	UT	¾	CS-7/SS-8	2-Nov	2-Nov	16-Nov	PDI-1-C18 PDI-2-C04	UT03	R8-38	DW,270,600	
FW-G33-3096-10WF3	4' Sweepolet to Tee	5351-5	UT	4	SS-23	2-Nov	8-Nov	17-Nov	PDI-2-C05	UT05, UT06	R8-40	DW,140,573	
7-316A	Main Steam Nzz to SE	5352-5	UT	3	CS-5	8-Nov	8-Nov	19-Nov	PDI-1-C34, C35	UT18	R8-74	DW,72,655	
SW-PS-2-A1-A	26" Pipe to Elbow	5352-5	UT	3	CS-5	8-Nov	8-Nov	17-Nov	PDI-1-C30, C31	UT16	R8-72	DW,72,655	
SW-PS-2-A1-B	26" Elbow to Pipe	5352-5	UT	3	CS-5	8-Nov	8-Nov	17-Nov	PDI-1-C32, C33	UT17	R8-73	DW,72,653	
SW-PS-2-C3-J	8" Sweepolet to Pipe	5354-5	UT	3	CS-20	12-Nov	13-Nov	17-Nov	PDI-1-C40	UT23, UT24	R8-91	DW,314,609	
SW-PS-2-C3-K	8" Pipe to Flange	5354-5	UT	3	CS-20	12-Nov	13-Nov	17-Nov	PDI-1-C41	UT25, UT26	R8-92	DW,314,609	
SW-RD-2-B8-W1	12" Pipe to Elbow	5358-5	UT	4	SS-17	1-Nov	2-Nov	16-Nov	PDI-2-C03	UT-02	R8-35	DW,90,613	
SW-RD-2-B8-W2	12" Elbow to Pipe	5358-1	UT	4	SS-17	30-Oct	2-Nov	16-Nov	PDI-2-C01	UT-01, MT-011	R8-15	DW,90,615	
FW-E11-2327-0W1	24" Valve to Pipe	2327-5	UT	3	CS-9	3-Nov	4-Nov	17-Nov	PDI-1-C19	UT11	R8-48	RB1,B12,594	
FW-E41-2297-2W3	10" Pipe to Elbow	2297-5	UT	3	CS-22	2-Nov	3-Nov	16-Nov	ISI-350-C04 PDI-1-C17	UT09, UT10	R8-37	DW,0,586	
FW-E41-2297-0W4	10" Fluted head to pipe	2297-5	UT	3	CS-18	2-Nov	2-Nov	11-Nov	PDI-1-C15, C16	UT08	R8-36	Stm,F12,586	

Sys/Comp ID	Description	ISO	Exams	Procedure	Cal Std	Comp	L III	ANII	Cal Sheet	Data Sheet	Report	Loc/Az/El	Remarks
B-F & B-J Class 1 Piping	**RIISI Welds**												
3-316A	FW 14" SE to Noz	3537-5	UT	3	CS-46	7-Nov	8-Nov	19-Nov	PDI-1-C28	UT14	R8-69	DW,30,642	
N4A	SE Ext. to SE	3537-5	UT	3	CS-46	7-Nov	8-Nov	19-Nov	PDI-1-C29	UT15	R8-70	DW,30,642	
FW-N21-2336-15W0	12" Pipe to SE	3537-5	UT	3	CS-15	7-Nov	8-Nov	17-Nov	PDI-1-C27	UT13	R8-68	DW,30,642	
SW-N21-2336-15WP	12" Pipe to Elbow	3537-5	UT	3	CS-15	7-Nov	8-Nov	18-Nov	PDI-1-C26	UT12	R8-67	DW,30,641	
B-G-1 Bolting	**Greater Than 2"**												
RPV Closure Nuts	1/3 of locations	5362-5	MT	2	N/A	10-Nov	12-Nov	17-Nov	N/A	MT-027, MT-028 VT-004	R8-83	Refuel Flr.	
RPV Closure Studs	1/3 of locations in place 48-51		UT	5	RPV Stud	28-Oct 4-Nov.	5-Nov	11-Nov 17-Nov	PDI-5-C01, C02 PDI-5-C03, C04	UT-01	R8-10 R8-50	RPV Cavity	
RPV Closure Studs	48-51 removed		MT	2	N/A	10-Nov	12-Nov	17-Nov	N/A	MT-026	R8-50	Refuel Flr.	
Threads in Flange	1/3 of locations		UT	10	CSCL-52	29-Oct	30-Oct	16-Nov	ISI-55-C01	UT-01, UT-02	R8-11	RPV Cavity	
RPV Closure Washers/Bushings	1/3 of locations		VT-1	16	N/A	10-Nov	12-Nov	17-Nov	N/A	VT-005	R8-84	Refuel Flr.	
Recirc Pump Studs	Pump A 1-16	5365-5	VT-1	16	N/A	10-Nov	17-Nov	27-Nov	N/A	01-035AP		DW,315,579	
Recirc Pump Studs	Pump A 1-16		UT	5	B31 Stud	10-Nov	12-Nov	19-Nov	PDI-5-C05, C06		R8-85	DW,315,579	
Recirc Pump nuts, bushings, and washers	Pump A 1-16		VT-1	16	N/A	10-Nov	17-Nov	27-Nov	N/A	01-035AP		DW,315,579	
RPV Spare Flange	0 deg.	5361-5	VT-1	16	N/A	10-Nov	17-Nov	27-Nov	N/A	01-035AN		Refuel Flr.	
RPV Spare Flange	180 deg.		VT-1	16	N/A	10-Nov	17-Nov	27-Nov	N/A	01-035A0		Refuel Flr.	
B-G-2 Bolting	**2" and Less**												
FBC-E51-2192-01	FE Flange	2192-5	VT-1	16	N/A	1-Nov	17-Nov	27-Nov	N/A	01-035A		DW,360,594	* Completed visual
FBC-B21-5352-01L	SRV Flange	5352-5	VT-1	16	N/A	1-Nov	17-Nov	27-Nov	N/A	01-035B		DW,360,594	examination of
B21-F013L-VBB	SRV Bonnet	5352-5	VT-1	16	N/A	1-Nov	17-Nov	27-Nov	N/A	01-035C		DW,39,613	bolting per surveillance

Sys/Comp ID	Description	ISO	Exams	Procedure	Cal Std	Comp	L III	ANII	Cal Sheet	Data Sheet	Report	Loc/Az/El	Remarks
B-G-2 Bolting	**2" and Less**												
FBC-B21-5353-01K	SRV Flange	5353-5	VT-1	16	N/A	1-Nov	17-Nov	27 Nov	N/A	01-035D		DW,39,613	43.000.014.
B21-F013K-VBB	SRV Bonnet	5353-5	VT-1	16	N/A	1-Nov	17-Nov	27-Nov	N/A	01-035E		DW,70,613	
FBC-B21-5353-01G	SRV Flange	5353-5	VT-1	16	N/A	1-Nov	17-Nov	27-Nov	N/A	01-035F		DW,70,613	
B21-F013G-VBB	SRV Bonnet	5353-5	VT-1	16	N/A	1-Nov	17-Nov	27-Nov	N/A	01-035G		DW,38,613	
B21-F028B-VBB	B Line Outboard MSIV	5353-5	VT-1	16	N/A	1-Nov	17-Nov	27-Nov	N/A	01-035H		DW,38,613	
FBC-B21-5354-01B	SRV Flange	5354-5	VT-1	16	N/A	1-Nov	17-Nov	27-Nov	N/A	01-035I		DW,298,613	
B21-F013B-VBB	SRV Bonnet	5354-5	VT-1	16	N/A	1-Nov	17-Nov	27-Nov	N/A	01-035J		DW,298,613	
B21-F028D-VBB	D Line Outboard MSIV	5353-5	VT-1	16	N/A	31-Oct	17-Nov	27-Nov	N/A	01-035K		Stm,F12,599	
E21-F006A-VBB	CS Inbd Check	3052-5	VT-1	16	N/A	9-Nov	17-Nov	27-Nov	N/A	01-035L		DW,210,627	
E41-F003-VBB	HPCI Otbd ISO Valve	2297-5	VT-1	16	N/A	31-Oct	17-Nov	27-Nov	N/A	01-035M		Stm,F12,587	
G33-F001-VBB	RWCU Inbd Iso	3096-5	VT-1	16	N/A	1-Nov	17-Nov	27-Nov	N/A	01-035N		DW,229,603	
G33-F120-VBB	RWCU to FW Ck	3536-5	VT-1	16	N/A	1-Nov	17-Nov	27-Nov	N/A	01-035O		Stm,F12,587	
B21-F011A-VBB	FW A Manual Iso	3537-5	VT-1	16	N/A	1-Nov	17-Nov	27-Nov	N/A	01-035P		DW,350,603	
B-H RPV Integral Attachment Welds													
3-306/4-309 Skirt Weld	10 percent of length	5360-5	MT	2	N/A	4-Nov	6-Nov	19-Nov	N/A	MT-025	R8-52	Bio Annulus	
3-306/4-309 Skirt Weld	10 percent of length	5360-5	UT	7		4-Nov	6-Nov	19-Nov	ISI-210-C07, C08, C09	UT12	R8-52	Bio Annulus	
10-324A Stabilizer		5360-5	MT	2	N/A	13-Nov	14-Nov	16-Nov	N/A	MT-029	R8-94	DW,0,647	

Sys/Comp ID	Description	ISO	Exams	Procedure	Cal Std	Comp	L III	ANII	Cal Sheet	Data Sheet	Report	Loc/Az/El	Remarks
B-H RPV Integral Attachment Welds													
B-O CRD Housing Welds													
CRDH-X02-Y27-W1	Peripheral Housing Weld		PT	1	N/A	9-Nov	10-Nov	18-Nov	N/A	PT-004	R8-80	DWUV	
CRDH-X02-Y27-W2	Peripheral Housing Weld		PT	1	N/A	9-Nov	10-Nov	18-Nov	N/A	PT-005	R8-81	DWUV	

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Class 2

Sys/Comp ID	Description	ISO	Exams	Procedure	Cal Std	Comp	L III	ANII	Cal Sheet	Data Sheet	Report	Loc/Az/El	Remarks
C-A Vessel	**Shell Welds**		**Vol.**										
SW-E11-D2-HX-11	Shell to Flange	5370-5	UT	14	CS-80	30-Oct	2-Nov	16-Nov	ISI-350-C03 ISI-215-C02	UT03, UT04, UT05	R8-34	RB1,B9,	
C-B Vessel	**Nozzle to Shell Welds**		**Vol. / Surf.**										
SW-E11-D2-HX-01	Inlet Nozzle to Head	5370-5	UT	14	CS-80	30-Oct	1-Nov	16-Nov	ISI-350-C01 ISI-215-C01	UT01, UT02	R8-13	RB1,B9,	
SW-E11-D2-HX-01	Inlet Nozzle to Head	5370-5	MT	2		29-Oct	1-Nov	16-Nov		MT-009	R8-13	RB1,B9,	
C-B Vessel	**Inside Radius**		**Vol.**										
SW-E11-D2-HX-01 IRS	Inlet Nozzle to Head		UT	13	CS-81	30-Oct	1-Nov	15-Nov	ISI-211-C01	UT01	R8-30	RB1,B9,	
C-C Vessel	**Integral Attachment**		**Surf.**										
SW-E11-D2-HXS-05	Upper Shell Stiffener Weld		MT	2		31-Oct	1-Nov	16-Nov		MT-013	R8-20	RB1,B9,	
SW-E11-D2-HXS-06	Lower Shell Stiffener Weld		MT	2		31-Oct	1-Nov	16-Nov		MT-012, MT-012A	R8-19	RB1,B9,	CARD 01-20653 Reportable Ind.
SW-E11-D2-HXS-07	Support Ring		MT	2		31-Oct	1-Nov	16-Nov		MT-014	R8-21	RB1,B9,	

Sys/Comp ID	Description	ISO	Exams	Procedure	Cal Std	Comp	L III	ANII	Cal Sheet	Data Sheet	Report	Loc/Az/El	Remarks
C-C Vessel	**Integral Attachment**		**Surf.**										
SW-E11-D2-HXS-09	Stiffener Plate		MT	2		31-Oct	1-Nov	16-Nov		MT-015	R8-22	RB1,B9,	
SW-E11-D2-HXS-10	Stiffener Plate		MT	2		31-Oct	1-Nov	16-Nov		MT-016	R8-23	RB1,B9,	
SW-E11-D2-HXS-11	Stiffener Plate		MT	2		31-Oct	1-Nov	16-Nov		MT-017	R8-24	RB1,B9,	
SW-E11-D2-HXS-12	Stiffener Plate		MT	2		31-Oct	1-Nov	16-Nov		MT-018	R8-25	RB1,B9,	
SW-E11-D2-HXS-21	Stiffener Plate		MT	2		31-Oct	1-Nov	16-Nov		MT-019	R8-26	RB1,B9,	
SW-E11-D2-HXS-22	Stiffener Plate		MT	2		31-Oct	1-Nov	16-Nov		MT-020	R8-27	RB1,B9,	
SW-E11-D2-HXS-23	Stiffener Plate		MT	2		31-Oct	1-Nov	16-Nov		MT-021	R8-28	RB1,B9,	
SW-E11-D2-HXS-24	Stiffener Plate		MT	2		31-Oct	1-Nov	16-Nov		MT-022	R8-29	RB1,B9,	
C-F-1 Piping	**Circumferential Welds**		**Surf.**										
FW-C41-2979-72S73	2" Elbow to Pipe	2979-5	PT	1		22-Oct	26-Oct	16-Nov		PT-001	R8-02	RB4,668	
FW-C41-2979-2S3	2" Elbow to Reducer	2979-5	PT	1		31-Oct	1-Nov	11-Nov		PT-003	R8-33	RB2,C12,633	
FW-C41-2979-1S2	2" Reducer to Pipe	2979-5	PT	1		31-Oct	1-Nov	11-Nov		PT-002	R8-32	RB2,C12,633	
C-F-2 Piping	**Circumferential Welds**		**Vol. / Surf. / VT**										
FW-E11-3146-5W0	18" Elbow to Valve	3146-5	MT	2		25-Oct	29-Oct	16-Nov		MT-002	R8-03	Tor,B13,579	
FW-E11-3146-5W0		3146-5	UT	3	CS-40	25-Oct	29-Oct	16-Nov	PDI-1-C01, C02	UT01	R8-03		
SW-E11-3153-13WD	24" Pipe to Elbow	3153-5	MT	2		24-Oct	29-Oct	16-Nov		MT-006	R8-07	SW Quad,543Y	
SW-E11-3153-13WD	.375" Std.	3153-5	UT	3	PDI1-Alt	25-Oct	29-Oct	16-Nov	PDI-1-C06, C07, C08	UT03	R8-07		
FW-E11-3159-0W1	12" Wol to Pipe	3159-5	MT	2		26-Oct	31-Oct	16-Nov		MT-008	R8-09	Tor, B13,575	
FW-E11-3159-0W1	.406 Schd. 40	3159-5	UT	3	PDI1-Alt	26-Oct	31-Oct	16-Nov	PDI-1-C09, C10, C11, C12	UT04	R8-09		

Sys/Comp ID	Description	ISO	Exams	Procedure	Cal Std	Comp	L III	ANII	Cal Sheet	Data Sheet	Report	Loc/Az/El	Remarks
C-F-2 Piping	Circumferential Welds		Vol. / Surf. / VT										
SW-E21-3145-9WD	10" Elbow to Pipe	3145-5	VT-1	17		31-Oct	31-Oct	16-Nov		VT-001	R8-16	Tor,320,577	
SW-E21-3147-5WJ	14" Pipe to Elbow	3147-5	MT	2		23-Oct	29-Oct	16-Nov		MT-003	R8-04	SE Quad,549Y	
SW-E21-3147-5WJ	.438 Schd. 40	3147-5	UT	3	PDI1-Alt	24-Oct	29-Oct	16-Nov	PDI-1-C03, C04	UT02	R8-04		
SW-E21-3147-19WB	12" Elbow to Pipe	3147-5	MT	2		23-Oct	29-Oct	16-Nov		MT-004	R8-05	RB2,"C11,628	
SW-E21-3147-19WB		3147-5	UT	3	CS-15	27-Oct	29-Oct	16-Nov	PDI-1-C05	UT05	R8-05		
SW-E21-3148-5WD	20" Pipe to WOL	3148-5	MT	2		26-Oct	27-Oct	11-Nov		MT-005	R8-06	NE Quad,541	
FW-E41-3162-11W0 & LD	24" Elbow to Pipe	3162-5	VT-1	17		29-Oct	31-Oct	16-Nov		VT-003	R8-18	Tor,G11,560	
SW-E41-3162-11WC	24" Elbow to Reducer	3162-5	VT-1	17		29-Oct	31-Oct	16-Nov		VT-002	R8-17	Tor,G11,560	
FW-N30-3259-4W0	24" Pipe to Valve	3259-5	MT	2		31-Oct	1-Nov	16-Nov		MT-024	R8-31	TB,L12,632	
FW-N30-3259-4W0		3259-5	UT	3	CS-9	31-Oct	1-Nov	16-Nov	ISI-350-C02 PDI-C13, C14	UT06, UT07	R8-31		
FW-T48-04-2095-19W0	8" Pipe to Tee	2095-5	MT	2		19-Oct	22-Oct	11-Nov		MT-001	R8-01	RB1,B13,594	
SW-E11-3151-8WD	24" Pipe to Weldolet	3151-5	MT	2		26-Oct	27-Oct	16-Nov		MT-007	R8-08	Tor,B12,575	
SW-N30-3258-13WB	26" Pipe to Sweepolet	3258-5	MT	2		29-Oct	30-Oct	16-Nov		MT-010	R8-14	Stm,F12,598	

RF-08 EXAM DATA BASE
Augumented

Sys/Comp ID	Description	ISO	Exams	Procedure	Cal Std	Comp	L III	ANII	Cal Sheet	Data Sheet	Report	Loc/Az/El	Remarks
ANSI B31.1	GL 88-01 Category D												
FW-N21-3109-18W0		3109-1	UT	3/4	CS-86/SSCL-87	5-Nov	7-Nov	17-Nov	PDI-1-C23, C24, C25 PDI-2-C10, C11, C12	UT11, UT12	R8-56	TB3,P5,645	
SW-N21-01-B002-AWSE		3109-1	UT	3/4	CS-86/SSCL-87	5-Nov	7-Nov	17-Nov	PDI-1-C20, C21, C22 PDI-2-C07, C08, C09	UT08, UT09, UT10	R8-55	TB3,P5,645	
FW-N20-3105-0W13		3105-1	UT	3/4	CS-11/SSCL-88	10-Nov	14-Nov	15-Nov	PDI-1-C36, C37, C38 PDI-2-C15, C16, C17	UT19, UT20 UT17	R8-89	TB2,P4,623	
SW-N20-03-B010-BWSE		3105-1	UT	3/4	CS-11/SSCL-88	10-Nov	14-Nov	15-Nov	PDI-1-C39, C42 PDI-2-C18, C19, C20	UT21, UT22, UT23 UT15	R8-90	TB2,P4,623	

Procedure	Reference Code	Procedure	Reference Code
39.NDE.001	1	ISI-UT-55	10
39.NDE.002	2	GFRM2-ISI-246	11
PDI-UT-1	3	UNIXDETC	12
PDI-UT-2	4	ISI-UT-211	13
PDI-UT-5	5	ISI-UT-215	14
PDI-UT-6	6	43.000.017	15
ISI-UT-210	7	43.000.014	16
I/UX-PDI-254	8	43.000.019	17
GFRM2-ISI-54	9		

2.3 Interval 2, Period 1, RF-07 Examinations

RF-07 EXAM DATA BASE
Class 1, 2, and Augmented

Cat/Item	Component ID	DESCRIPTION	ISO	Procedure	EXAMS	CAL STD	COMP	CAL SHT	DATA SHT	Report
B-D	**Reactor Vessel**	**Nozzle Inside Radius Section**		6						
B3.100	4-31C IRS	(NUREG 0619) Inner Radius	5361-5	6	UT	70287	17-Apr	AUT-IR-C01		R7-01
B3.100	4-316E IRS	(NUREG 0619) Inner Radius	5361-5	6	UT	70287	13-Apr	AUT-IR-C01		R7-02
B3.100	4-316F IRS	(NUREG 0619) Inner Radius	5361-5	6	UT	70287	17-Apr	AUT-IR-C01		R7-03
NUREG 0619	**Reactor Vessel**	**Nozzle Inner Bore Region**								
Augmented	4-316C IBR	FW Nozz Inner Bore Region	5361-5	6	UT	70287	16-Apr	AUT-IR-C01		R7-01
Augmented	4-316E IBR	FW Nozz Inner Bore Region	5361-5	6	UT	70287	13-Apr	AUT-IR-C01		R7-02
Augmented	4-316F IBR	FW Nozz Inner Bore Region	5361-5	6	UT	70287	16-Apr	AUT-IR-C01		R7-03
B-F	**RPV / Piping**	**RPV Noz to Safe End**								
B5.10	N5B	Dissimilar Metal Nozz-SE	3052-5	5	UT	FER-44,45	12-Apr	DETC-C05,C06		R7-04
	N5B	Core Spray	3052-5	1	PT	N/A	11-Apr		PT-05	R7-04
B5.10	2-303H	Dissimilar Metal Nozz-SE	5356-5	5	UT	FER-54,56	10-Apr	DETC-C01,C02		R7-05
	2-303H	Recirc Inlet	5356-5	1	PT	N/A	5-Apr		PT-03	R7-05
B5.10	4-303A	Dissimilar Metal Nozz-SE	5357-5	5	UT	FER-55,57	12-Apr	DETC-C03,C04		R7-06
	4-303A	Recirc Suction	5357-5	1	PT	N/A	7-Apr		PT-04	R7-06
B5.10	102-304A	Dissimilar Metal Nozz-SE	5361-5	4	UT	FER47, Alt.1	13-Apr	PDI-1-C15-17	UT-01	R7-07
							13-Apr	PDI-2-C07-09		
	102-304A	Jet Pump Instrumentation	5361-5	1	PT	N/A	13-Apr		PT-06	R7-07
B5.20	5-315	Dissimilar Metal Nozz-SE	5361-5	4	UT	FER28	14-Apr	PDI-2-C10-12	UT-01	R7-08
	5-315	Core DP and Liquid Control	R1-91	1	PT	N/A	14-Apr		PT-07	R7-08

Cat/Item	Component ID	DESCRIPTION	ISO	Procedure	EXAMS	CAL STD	COMP	CAL SHT	DATA SHT	Report
B-K-1	**Integral Attach For Piping, Pumps, Valves**									
B10.10	SW-PS-2-A2-AA1	Pipe Lug Class 1	5352-5	2	MT	N/A	13-Apr		MT-17	R7-09
	SW-PS-2-A2-AA2	Pipe Lug	5352-5	2	MT	N/A	13-Apr		MT-18	R7-10
	SW-PS-2-A2-AA3	Pipe Lug	5352-5	2	MT	N/A	13-Apr		MT-19	R7-11
	SW-PS-2-A2-AA4	Pipe Lug	5352-5	2	MT	N/A	13-Apr		MT-20	R7-12
C-C	**Integral Attach For Piping, Pumps, Valves**									
C3.20	PSFW-E21-3147-301	Class 2 Stanchion to pipe	3147-5	2	MT	N/A	30-Mar		MT-02	R7-13
C-F	**Pressure Retaining Welds in Piping**									
C-F-1/Aug.	FW-C41-2979-P	2" pipe to coupling	2979-5	1	PT	N/A	30-Mar		PT-01	R7-15
C-F-1/Aug.	FW-C41-3361-02W1	3" valve to pipe	3361-5	1	PT	N/A	31-Mar		PT-02	R7-16
C-F-2/C5.51	FW-E11-3146-6W10	20" tee to elbow	3146-5	2	MT	N/A	6-Apr		MT-11	R7-17
	FW-E11-3146-6W10	20" tee to elbow	3146-5	3	UT	FER-41	8-Apr	PDI-1-C10	UT-01	R7-17
C-F-2/C5.51	FW-E11-3146-6WH	24" tee to pipe	3146-5	2	MT	N/A	3-Apr		MT-08	R7-18
	FW-E11-3146-6WH	24" tee to pipe	3146-5	3	UT	FER-43	4-Apr	PDI-1-C03	UT-01	R7-18
C-F-2/C5.51	FW-E11-3158-10WF4	20" pipe to nozzle	3158-5	2	MT	N/A	14-Apr		MT-05,05R	R7-19
	FW-E11-3158-10WF4	20" pipe to nozzle	3158-5	3	UT	FER-42	14-Apr	PDI-1-C18		R7-19
C-F-2/C5.51	SW-N-30-3258-19WJ	26" pipe to reducer	3258-5	2	MT	N/A	7-Apr		MT-12	R7-20
	SW-N-30-3258-19WJ	26" pipe to reducer	3258-5	3	UT	FER-5	8-Apr	PDI-1-C09	UT-01	R7-20
C-F-2/C5.52	SW-N-30-3258-19WJLU	intersecting long seam weld	3258-5	2	MT	N/A	7-Apr		MT-13	R7-20
	SW-N-30-3258-19WJLU	intersecting long seam weld	3258-5	3	UT	FER-5	8-Apr	PDI-1-C09	UT-02	R7-20
C-F-2/C5.51	SW-E11-3035-5WE	6" tee to reducer	3035-5	2	MT	N/A	8-Apr		MT-14	R7-21
C-F-2/C5.51	FW-E11-3157-0W6	16" pump to expander	3157-5	2	MT	N/A	31-Mar		MT-06	R7-22
	FW-E11-3157-0W6	16" pump to expander	3157-5	3	UT	FER-40	31-Mar	PDI-1-C01	UT-01	R7-22
C-F-2/C5.51	FW-E21-3144-0W1	12" pump to expander	3144-5	2	MT	N/A	30-Mar		MT-01	R7-23

Cat/Item	Component ID	DESCRIPTION	ISO	Procedure	EXAMS	CAL STD	COMP	CAL SHT	DATA SHT	Report
C-F-2/C5.51	FW-E21-3147-16W17	12" elbow to pipe	3147-5	2	MT	N/A	3-Apr		MT-09	R7-24
	FW-E21-3147-16W17	12" elbow to pipe	3147-5	3	UT	PDI -1 Alt.	6-Apr	PDI-1-C04-5	UT-01	R7-24
C-F-2/C5.51	SW-E21-3149-4WD	20" pipe to tee	3149-5	2	MT	N/A	1-Apr		MT-07	R7-25
	SW-E21-3149-4WD	20" pipe to tee	3149-5	3	UT	PDI -1 Alt.	1-Apr	PDI-1-C02	UT-01	R7-25
C-F-2/C5.51	FW-E41-3163-7W0	16" pipe to valve	3163-5	2	MT	N/A	8-Apr		MT-15	R7-26
	FW-E41-3163-7W0	16" pipe to valve	3163-5	3	UT	FER-85	10-Apr	PDI-1-C11	UT-01	R7-26
C-F-2/C5.51	FW-T48-04-2095-11W12	6" pipe to elbow	2095-5	2	MT	N/A	30-Mar		MT-03	R7-27
C-F-2/C5.51	FW-T48-04-2097-8W9	6" elbow to pipe	2097-5	2	MT	N/A	30-Mar		MT-04	R7-28
C-F-2/C5.51	SW-T48-04-2097-21WB	8" elbow to pipe	2097-5	7	VT-1	N/A	5-Apr		VT-02	R7-29
C-F-2/C5.51	FW-T48-04-2097-20W21	8" pipe to tee	2097-5	2	MT	N/A	8-Apr		MT-16	R7-30
C-F-2/C5.51	SW-T48-04-2097-25WF	10" elbow to elbow	2097-5	7	VT-1	N/A	5-Apr		VT-01	R7-31
C-F-2/C5.81	SW-E11-3146-5WC	24" pipe to weldolet	3146-5	2	MT	N/A	3-Apr		MT-10	R7-32
Augmented	FW-N20-3107-0W17	20" safe end to pipe (dm)	3107-1	3,4	UT	FER-11, 88	10-Apr	PDI-1-C12-14	UT-01	R7-33
GL 88-01								PDI-2-C04-06	UT-01	
Augmented	SW-N20-03-B014-BWSE	20" nozzle to safe end (dm)	3107-1	3,4	UT	FER-11, 88	10-Apr	PDI-1-C12-14	UT-02	R7-34
GL 88-01								PDI-2-C04-06	UT-02	
Augmented	FW-N20-3105-16W0	20" elbow to safe end (dm)	3105-1	3,4	UT	FER-11, 88	6-Apr	PDI-1-C06-08	UT-01	R7-35
GL 88-01								PDI-2-C01-03	UT-01	
Augmented	SW-N20-03-B014-AWSE	20" safe end to nozzle (dm)	3105-1	3,4	UT	FER-11, 88	6-Apr	PDI-1-C06-08	UT-02	R7-36
GL 88-01								PDI-2-C01-03	UT-02	
GE recommended exam	Steam Dryer	Support Ring Indications	5364-5	9	UT	CAL-DSR01	18-Apr	SDSR-CAL1/2	Dat-1/2	SDSR

GE recommended exam

Procedure	Reference Code	Procedure	Reference Code
39.NDE.001	1	UNIXDETC	5
39.NDE.002	2	Fermi-800-1/2	6
PDI-UT-1	3	43.000.019	7
PDI-UT-2	4	43.000.004	8

SECTION 3

SUMMARY OF REACTOR INTERNAL EXAMINATIONS

3. Code Category

Code Category
B-N-1 and B-N-2 Inspections
Interval 2, Period 1, RF-09

Components	Technique	Requirement	Results / Remarks
Brackets			
Feedwater Spargers (3)	VT-3 EVT-1	BWRVIP-48	NRI
Core Spray Piping (4)	EVT-1	BWRVIP-48	RI (PB-015 Wear)
Feedwater			
Spargers (3)	VT-3	NUREG-0619	NRI
Nozzles (3)	VT-3	NUREG-0619	NRI
Core Spray			
Piping / Welds	EVT-1	BWRVIP-18	NRI (Note 1)
Spargers	EVT-1 / VT-1	BWRVIP-18	NRI (Note 1)
Jet Pump			
Riser Brace (JP No.3 & 4)	EVT-1 / VT-1	ASME/BWRVIP-41	NRI
Risers (JP No.3, 4 & 7)	EVT-1	BWRVIP-41	RI (Note 2)
Assemblies (JP No.3 & 4)	EVT-1	BWRVIP-41	NRI (Note 4)
Restrainer Bracket Assemblies (JP No.1-20)	EVT-1 / VT-1/3	SIL 574 / SIL 629	RI (Note 6)
Sensing Lines (JP No.3 & 4)	VT-3	SIL 420	NRI
Nozzle Inner Radius Surfaces	VT-1	Relief Request RR-A31 and RR-A31	NRI (Note 5)
Top Guide / Core Plate			
6 locations Top Guide	VT-1	SIL 554 / BWRVIP-26	NRI
Shroud			
Shroud Support	EVT-1	BWRVIP-07 / 38	NRI (Note 3)
Gussets	EVT-1	BWRVIP-07 / 38	NRI (Note 3)
Steam Dryer			
Assembly 30%	VT-3	SIL 474	No change in indications noted
Steam Separator			
Assembly 30%	VT-3	N/A	NRI
Shroud Head Bolts 50%	VT-3	SIL 433	NRI

Notes:

(1) Examined accessible areas of all selected piping welds and components to the extent possible per BWRVIP-18 requirements. Sampling inspections were also performed on sparger welds.

(2) Reinspected indication adjacent to RS-1 weld (1.75") on Jet-Pumps 7 and 8 identified RF-06 (10/98) no change in length observed.

(3) Examined H-8 and H-9 between Jet Pumps 3 and 4. Examined accessible areas of gussets 2 and 15.

(4) All assembly welds visually inspected except for welds DF-3, AD-1 and AD-2, which are inaccessible for VT inspection. UT Technique not available.

(5) Inspected accessible areas of the following nozzle inside radius areas within limits of design and geometry. Reactor Recirculation outlet (1), Reactor Recirculation intlet (5).

(6) Second cracked tack weld discovered on restrainer screw for Jet-Pump No.15. Crimped screw and installed auxiliary spring wedge as a permanent repair.

Code Category
B-N-1 and B-N-2 Inspections
Interval 2, Period 1, RF-08

Components	Technique	Requirement	Results / Remarks
Brackets			
Steam Dryer Support (4)	EVT-1	BWRVIP-48	NRI
Feedwater Spargers (6)	EVT-1	BWRVIP-48	NRI
Guide Rod Bracket 0^0 &180^0	EVT-1 / VT-3	BWRVIP-48	NRI
Core Spray Piping (4)	EVT-1	BWRVIP-48	NRI
Feedwater			
Spargers (3)	VT-3	NUREG-0619	NRI
Nozzles (3)	VT-3	NUREG-0619	NRI
Core Spray			
Piping / Welds	EVT-1	BWRVIP-18	NRI (Note 1)
Spargers	EVT-1 / VT-1	BWRVIP-18	NRI (Note 1)
Jet Pump			
Risers (JP No.7 & 8)	EVT-1	BWRVIP-41	RI (Note 2)
Risers (JP No.1 & 2)	EVT-1	BWRVIP-41	NRI
Assemblies (JP No.1 & 2)	EVT-1	BWRVIP-41	NRI (Note 4)
Restrainer Bracket	EVT-1 / VT-1/3	SIL 574 / SIL 629	
Assemblies (JP No.1-20)			NRI
Sensing Lines	VT-3	SIL 420	NRI
Dry Tubes			
4-SRM	VT-1	SIL 409 /	NRI
8-IRM	VT-1	RICSIL-073	NRI
Top Guide / Core Plate			
8 locations Top Guide	VT-1	SIL 554 / BWRVIP-26	NRI
Core Plate Bolts (4 locations)	VT-1	SIL 588 / BWRVIP-25	NRI (Note 6)
Shroud			
Shroud Support	EVT-1	BWRVIP-07 / 38	NRI (Note 3)
Gussets	EVT-1	BWRVIP-07 / 38	NRI (Note 3)
Steam Dryer			
Assembly 30%	VT-3	SIL 474	No change in indications noted
Steam Separator			
Assembly 30%	VT-3	N/A	NRI
Shroud Head Bolts 50%	VT-3	SIL 433	NRI

Components	Technique	Requirement	Results / Remarks
Nozzle Inside Radius Sections	VT-1 (1 mil wire)	RR-A31 and RR-A32	NRI (Note 5)
RPV Seal Surface		N/A	
Head Flange	VT-1		NRI
Vessel Flange	VT-1		NRI
O-Rings	VT-1 (Direct)		NRI
Vessel Cladding	VT-3		NRI
Control Rod Guide Tubes (10)	EVT-1/VT-3	BWRVIP-47	NRI
Surveillance Specimen Bracket / Lugs	EVT-1 / VT-3	BWRVIP-48	NRI

Notes:

(1) Examined accessible areas of all welds and components to the extent possible. BWRVIP baseline inspections were completed RF-06 and RF-07. Sampling inspections were performed on the spargers.

(2) Reinspected indication adjacent to RS-1 weld (1.75") identified RF-06 (10/98) no change in length observed.

(3) Examined approximately 22% of H-8 and H-9 at 0^0 and 180^0 and between Jet Pumps 2 & 3. Examined accessible areas of gussets 1, 2, 3, 11, 12, & 22.

(4) All assembly welds visually inspected except for welds DF-3, AD-1 and AD-2, which are inaccessible for VT inspection. UT Technique not available.

(5) Inspected accessible areas of the folowing nozzle inside radius areas within limits of design and geometry. Main Steam (2), Core Spray (1), CRD Hydraulic Return (1) and Reactor Recirculation (3).

(6) Inspected top of bolts at four azimuth locations only.

Code Category
B-N-1 and B-N-2 Inspections
Interval 2, Period 1, RF-07

Components	Technique	Requirement	Results / Remarks
Brackets			
Steam Dryer Support (4)	EVT-1	BWRVIP-48	NRI
Feedwater Spargers (6)	EVT-1	BWRVIP-48	NRI
Guide Rod Bracket @ 180^0	EVT-1 / VT-3	BWRVIP-48	NRI
Core Spray Piping (4)	EVT-1	BWRVIP-48	NRI
Feedwater			
Spargers	VT-3	NUREG-0619	NRI
Nozzles	EVT-1	NUREG-0619	NRI
Core Spray			
Piping / Welds	EVT-1	BWRVIP-18	NRI (Note 1)
Spargers	EVT-1	BWRVIP-18	NRI
Jet Pump			
Risers (JP No.7 & 8)	EVT-1	BWRVIP-41	RI (Note 2)
Risers (JP No.11-20)	EVT-1	BWRVIP-41	NRI
Assemblies (JP No.11-20)	EVT-1	BWRVIP-41	NRI (Note 4)
Set Screw Tack Welds	EVT-1	SIL 574	NRI
Sensing Lines	VT-3	SIL 420	NRI
Dry Tubes			
4-SRM	VT-1	SIL 409 /	NRI
8-IRM	VT-1	RICSIL-073	NRI
Top Guide / Core Plate			
8 locations Top Guide	VT-1	SIL 554	NRI
Core Plate Bolts (4 locations)	VT-1	SIL 588 R1	NRI
Shroud			
H2 Indication	EVT-1	BWRVIP-07	No change in indication
Shroud Support	EVT-1	BWRVIP-07	NRI (Note 3)
Gussets	EVT-1	BWRVIP-07	NRI (Note 3)
Steam Dryer			
Assembly 30%	VT-3	SIL 474	No change
Previous Indications	VT-3/UT		Indications have shallow depth as expected
Steam Separator			
Assembly 30%	VT-3	N/A	NRI
Shroud Head Bolts 50%	VT-3	SIL 433	NRI

Components	Technique	Requirement	Results / Remarks
Control Rod Blade O2-39	EVT-1	CARD 98-17816	Re-look of previous indication – no significant changes.
RPV Seal Surface		N/A	
Head Flange	VT-1		NRI
Vessel Flange	VT-1		NRI
O-Rings	VT-1 (Direct)		NRI
Vessel Cladding	VT-3		NRI
Control Rod Guide Rods	EVT-1/VT-3	BWRVIP-47	NRI

Notes:

(1) Examined accessible areas of all welds except P-1, which was inaccessible.

(2) Reinspected indication adjacent to RS-1 weld (1.75") identified RF-06 (10/98) no change in length observed.

(3) Examined H-8 and H-9 at 0^0 and 180^0 only. Examined accessible areas of gussets between Jet Pumps No.11-20.

(4) All assembly welds visually inspected expect for welds DF-3, AD-1 and AD-2, which are inaccessible for VT inspection. UT Technique not available.

SECTION 4

SUMMARY OF COMPONENT SUPPORT EXAMINATIONS

4. SUMMARY OF COMPONENT SUPPORT EXAMINATIONS

VT-3 performed on various, system and component supports. Functional Testing for ASME Section XI, Article IWF-5000 snubbers was performed in accordance with EF-2 Technical Requirements Manual for functional testing of snubbers (Ref. Paragraph 5.1.)

4.1 ASME SECTION XI - IWF (Class 1 and 2) Credit for Component Supports for Interval 2, Period 2, Refuel-09.

CLASS	COMPONENT SUPPORTS	SNUBBERS (1)	TOTAL
1	5	30	35
2	21	56	77
3	15	57	72
Other		55	55

NOTE

(1) All Snubbers were visually inspected to the requirements of the Technical Requirements Manual 5.1 and ASME Section XI using Level I, Level II and III, VT-3 certified inspectors.

4.2 Technical Requirements Examinations

4.2.1 Refuel-09 Examinations

1. VT-3 examinations were performed on all Safety Related and Non Safety Related snubbers selected for functional testing per Technical Requirements Manual 5.1. Total examined was 198.

2. A total of 149 safety related snubbers were functionally tested per the Technical Requirements Manual. 66 snubbers were initially selected at random and functionally tested. Due to testing failures, 83 additional snubbers were functionally tested as required by the Technical Requirements Manual.

3. Seal Life Changeout was performed on 24 snubbers.

4.2.2 Refuel-08 Examinations

1. VT-3 examinations were performed on all Safety Related and Non Safety Related snubbers per Technical Requirements Manual 5.1. Total examined was 699.

2. A total of 66 safety related snubbers per the Technical Requirements Manual were initially selected at random and functionally tested. No snubbers failed functional testing.

3. Seal Life Changeout was performed on 31 Snubbers.

4.2.3 Refuel-07 Examinations

1. VT-3 examinations were performed on all Safety Related and Non Safety Related snubbers selected for functional testing per Technical Requirements Manual 5.1. Total examined was 223.

2. A total of 66 safety related snubbers per the Technical Requirements Manual. Snubbers were initially selected at random and functionally tested. One additional snubber that failed functional testing during RF-06 was also functionally tested as required by the Technical Requirements Manual.

3. Seal Life Changeout was performed on 27 snubbers.

4. An additional 124 pre-service examinations were completed, resulting from the installation of additional supports due to a plant modification.

4.2.4 Preservice Examinations

A preservice visual examination was performed for Technical Requirements Manual Snubbers and ASME Section XI supports which were modified, replaced, added, or repaired during refueling outages RF-07, RF-08, and RF-09 (includes seal life changeout).

SECTION 5

ABSTRACT OF CONDITIONS NOTED

AND CORRECTIVE ACTIONS TAKEN

5.1 Refuel-09

The results of the inservice inspections performed indicate that vessels, piping, and components included in the Fermi ISI-NDE Program are in good structural condition and can support safe and reliable operation during the next operating cycle.

5.1.1 RPV Internals

During RF-09 inspections were conducted on numerous reactor vessel components using the recommended inspection methods and techniques contained in various Boiling Water Reactor Vessel Internals Project (BWRVIP) inspection and examination guidelines as well as selected augmented inspections identified in Section 3. The intent is to perform the highest quality inspections on all RPV components including some BWRVIP guidelines that have not yet been formally approved by the NRC. This proactive approach will assure the continued structural integrity of RPV components. A detailed listing of inspections is provided in Section 3.

During vessel flange inspection after disassembly and prior to flood up it was noted that a nail had been compressed between the flanges near stud No. 54. The nail was removed leaving a depression outside of the sealing surface. A condition assessment resolution document (CARD 03-10364) was initiated, no repairs were required. Additionally, after O-ring removal and prior to cleaning, the grooves were inspected and heavy silver deposits were noted to have been transferred from the O-ring. The deposits were flaky in nature and were removed with scotch brite pads followed by light stoning (CARD 03-14819).

Inspections were completed on all accessible welds on two complete Jet Pump Risers and Assemblies (No.3& No.4) to comply with the BWRVIP-41 reinspection recommendations. Reinspection of a previously cracked restrainer set-screw on JP-15 revealed a second cracked tack weld (CARD 03-16929). All 20 Jet Pump restrainer assemblies were reinspected as recommended by SIL No. 629 including the wedge, restrainer screw contact, as well as the 80 restrainer screw tack welds. No additional cracked welds were found. The set-screw on JP-15 was staked to prevent backing out and an auxiliary spring wedge was installed per EDP 32499.

During RF-06 a crack approximately 1 ¾" long was identified on the thermal sleeve to elbow weld (RS-1) on the riser of Jet Pumps 7 and 8 at 120^0 AZ. This indication was evaluated and found acceptable for continued operation without repair. This indication was reinspected during RF-07, RF-08, and RF-09 and there continues to be no observable change in length or width. This indication is within the allowable flaw acceptance tolerance for this location and repair is not necessary. Re-inspection of this indication will again be performed during RF-10. This crack is similar to indications identified in at least 5 other BWR plants.

Indications and conditions identified during previous outages were reinspected during RF-09. One additional tie rod on the steam dryer was found to have a cracked tack weld (TR-E-6) similar to those noted previously. There is little or no concern that this nut, or any others, will back out during the current cycle with the remaining sound welds. No other changes were noted.

The RPV internals are in very good condition. There is no service related degradation that should impact plant performance during the next operating cycle. Internal inspections are

achieving their goal of detecting and monitoring degradation and effecting prudent repairs/replacement to maintain the plant in a safe and reliable manner.

5.1.2 RPV External Volumetric and ASME Piping Weld Examinations

During RF-09 Detroit Edison implemented a Risk Informed Inservice Inspection Program for ASME Class 1 piping welds. No piping weld defects were detected.

New utility performance demonstration initiative requirements (ASME Section XI, Appendix VIII, Supplement 10) were also implemented for two dissimilar metal weld inspections. No indications of service related degradation were detected.

RPV weld ultrasonic examinations using ASME Section XI, Appendix VIII/PDI procedures continue to be performed for the first time on scheduled weld locations. These more sensitive examinations are identifying a significantly larger number of manufacturing flaws than were reported during previous amplitude based examinations. These more sensitive inspections detected 4 indications/combinations that would have been unacceptable per IWB-3510. These pre-existing welding flaws were confirmed by review of the construction radiographs and the pre-service UT data. One large slag indication/combination was detected in lower intermediate shell course weld 15-308B and was accepted in accordance with IWB-3112 (b). However, due to its significant size, a fracture mechanics evaluation was performed as specified in CARD 03-16383 to verify the flaw will not present a structural or leakage problem during the remaining service-life of the RPV with a projected 20% power uprate, and including a 20 year life extension. INPO OE16421 was issued to notify other licensees.

During the performance of Category B-G-2 bolting inspections, loose nuts were detected on valve bolting at E11-F009-VBB and CARD 03-16366 was initiated. Investigation determined that the loose bolting was related to torquing practices for pressure seal bonnet bolting. An initial sample expansion was made and additional loose bolting was detected. The sample was extended to cover all pressure seal style bonnet bolting. Additional CARDs 03-16370, 03-16371, and 03-16372 were initiated for loose bolting during the expanded sample examinations of E11-F060B-VBB, B21-F011B-VBB, and E11-F008-VBB. Work requests (000Z031279, 000Z031430, 000Z031420, and 000Z0231490) were initiated to re-torque the pressure seal bonnet bolting with system pressure under the bonnets.

No service related degradation was noted during RF-09 NDE. The RPV and piping systems are in satisfactory condition to support future safe operation of the plant.

5.1.3 Component Supports

Several hangers were found with discrepancies between the installed condition and their configuration documents. It was determined that these conditions did not effect the components operability and were not reportable. No additional supports were inspected as a result of these observations.

Snubber functional testing found eight mechanical snubbers that did not meet acceptance criteria. Five of the failures were due to grease degradation. The other three failures were due to overload. All snubbers were replaced with rebuilt and tested snubbers. An evaluation of the effect of the failed snubbers on their associated piping found no adverse effects. All required sample expansions were completed to meet the requirements of the Technical Requirements Manual 5.1. Reference the following CARDs: 03-16111, 03-03-16112, 03-16921, 03-16933, 03-16934, 03-16935, 03-16927.

5.2 Refuel-08

The results of the inservice inspections performed indicate that vessels, piping, and components included in the Fermi ISI-NDE Program are in good structural condition and can support safe and reliable operation during the next operating cycle.

5.2.1 RPV Internals

During RF-08 inspections were conducted on numerous reactor vessel components utilizing the recommended inspection methods and techniques contained in various Boiling Water Reactor Vessel Internals Project (BWRVIP) inspection and examination guidelines as well as selected augmented inspections identified in Section 3. Fermi's intent was to perform the highest quality visual inspections on all RPV components utilizing some BWRVIP guidelines that have not yet been formally approved by the NRC. This proactive approach will assure the continued structural integrity of RPV components. A detailed listing of inspections is provided in Section 3.

Inspections were completed on all accessible welds on two complete Jet Pump Risers and Assemblies (No.1& No.2) to comply with the BWRVIP-41 reinspection recommendations. These inspection points included welds previously inspected and no recordable indications were identified.

Baseline inspections had been previously completed for all Jet Pump assembly welds (No.1-20) during RF-06 and RF-07, with the exception of welds DF-3, AD-1 and AD-2. Inspection of these locations will be conducted during future outages when a technique is developed and qualified.

During RF-06 a crack approximately 1 ¾" long was identified on the thermal sleeve to elbow weld (RS-1) on the riser of Jet Pumps 7 and 8 at 120^0 AZ. This indication was evaluated and found acceptable for continued operation without repair. This indication was reinspected during RF-07 and again in RF-08, and there continues to be no observable change in length or width. This indication is within the allowable flaw acceptance tolerance for this location and repair is not necessary. Re-inspection of this indication will again be performed during RF-09. This crack is similar to indications identified in at least 5 other BWR plants.

Because of recent industry findings, all 20 Jet Pump restrainer assemblies were inspected as recommended by SIL No. 629 including the wedge, restrainer screw contact, as well as the 80 restrainer screw tack welds. The conditions on Jet Pump No.15 were again unchanged, and it still appears to have only one of 2 tack welds cracked. No additional cracked welds were found, therefore, no repairs were required this outage. In addition, there was no wedge damage identified and full contact (no gaps) was verified on all restrainer screws on all Jet Pumps.

Extensive visual inspections of Core Spray internal piping and spargers were performed per the BWRVIP-18 Guidelines for reinspection. No indications of cracking were identified. All accessible areas of the welds were inspected and no recordable indications were identified.

Inspections were performed on selected integral attachments per the guidelines of BWRVIP-48 and on approximately 22% of the Shroud Support Ring as well as several Gussets per the guidelines of BWRVIP-38. In addition, visual inspections were performed on several nozzle

inner radius sections per Relief Request RR-A31 and A32. No recordable indications were identified on any of these inspections.

Two new indications were identified on the steam dryer assembly welds in areas not previously inspected. The indications were identical to those previously reported. These indications were evaluated and no repairs were required during RF-08. Visual and ultrasonic inspections will continue to be performed during future outages.

Indications and conditions identified during previous outages were reinspected during RF-08. The reinspection included the following items with no further degradation identified.

- Steam Dryer tie rod nut to washer tack welds cracks and support ring.
- RPV internal surfaces - "Bathtub Ring".
- SRM / IRM Dry Tubes.

No adverse changes in existing indications were noted. The RPV internals are in very good condition. There is no service related degradation that should impact plant performance during the next operating cycle. Internal inspections are achieving their goal of detecting and monitoring degradation and effecting prudent repairs/replacement to maintain the plant in a safe and reliable manner.

5.2.2 RPV External Volumetric and ASME Piping Weld Examinations

During RF-08 Detroit Edison implemented a Risk Informed Inservice Inspection Program for ASME Class 1 piping welds. No piping weld defects were detected.

New utility performance demonstration initiative requirements (ASME Section XI, Appendix VIII, Supplements 4 and 6) were also implemented for RPV weld inspection. These more sensitive inspections detected existing fabrication flaws that were confirmed by review of construction radiographs.

During the performance of Class 2 weld inspections, one service related defect was detected at a stiffener plate weld adjacent to a vessel support ring on the division 2 RHR heat exchanger. The defect appeared to have originated from a pre-existing construction flaw in the stiffener plate weld tie-in at the support ring weld and propagated into the base material in the heat affected zone of the stiffener plate. The inspection sample was expanded to include all of the stiffener plate welds at that location. No additional indications were detected. The defect was reported on CARD 01-20653 and the defect was ground out and repaired by welding. The repaired area was then re-inspected to verify defect removal.

No other service related conditions were noted during RF-08 inspections.

5.2.3 Component Supports

Several hangers were found with discrepancies between the installed condition and their configuration documents. It was determined that these conditions did not effect the components operability and were not reportable. No additional supports were inspected as a result of these observations.

Hanger P45-3353-G14, which was not in the sample scope, was found by plant personnel to be pulled from the wall. A new baseplate was mounted and the strut returned to design settings. An inspection scope expansion was initiated and all other supports on the P45-3353 line were

inspected. One minor discrepancy (loose jamb nut) was found and corrected. It was determined that this did not impact component operability.

5.3 Refuel-07

Nondestructive examinations have verified that RPV and internals piping systems and supports are in good structural condition and can support safe and reliable operation during this operating cycle.

5.3.1 RPV Internals

During RF-07 inspections were conducted on numerous reactor vessel components utilizing the recommended inspection methods and techniques contained in various Boiling Water Reactor Vessel Internals Project (BWRVIP) inspection and examination guidelines as well as the augmented inspections identified in Section 3. While it is true that many of the guidelines are not yet approved by the NRC, the intent was to perform the highest quality visual inspections on RPV components. This proactive approach will assure the structural integrity of RPV components.

Inspections were initially scheduled for 50% of the Jet Pump risers and assemblies (No.11-20) to comply with BWRVIP-41 inspection recommendations. These inspection points included welds not previously inspected. During RF-06 a crack approximately 1 ¾" long was identified on the thermal sleeve to elbow weld (RS-1) on the riser of Jet Pumps 7 and 8 at 120^0 AZ. This indication was evaluated and found acceptable for continued operation without repair. This indication was reinspected during RF-07 and there was no observable change in length or width. This indication is within the allowable flaw acceptance tolerance for this location and repair is not necessary. Re-inspection of this indication will again be performed during RF-08. This crack is similar to indications identified in at least 5 other BWR plants.

All accessible and welds and locations on Jet Pumps assemblies No.11-20 were inspected and no recordable indication were identified. A baseline inspection has been completed for all Jet Pump welds (No.1-20) with the exception of welds DF-3, AD-1 and AD-2. Inspection of these locations will be conducted during future outages when a technique is developed and qualified. Reinspections on 1 of the 20 original control rod blades (02-39) identified very little change from the cracking on the sheath area near the handle on blade identified in RF-06. These indications were evaluated and are not detrimental to the operation of the control blade. While not a code inspection, several blades were periodically inspected as recommended by General Electric, following the chemistry transient in 1993.

No new indications were identified on the steam dryer assembly welds in areas not previously inspected. Both ISI and General Electric previously evaluated the indications. No repairs were required during RF-07. In addition, selected linear indications on the steam dryer support ring were ultrasonically inspected to determine the depth. The indications are shallow, less than ½" in depth, and pose no threat to the integrity of the steam dryer assembly. Visual and ultrasonic inspections will be performed during future outages.

Indications and conditions identified during previous outages were reinspected during RF-06. The reinspection included the following items with no further degradation identified.

- Core Shroud ID linear indication above the H2 weld.
- Steam Dryer tie rod nut to washer tack welds cracks and support ring.
- RPV internal surfaces - "Bathtub Ring".

- SRM / IRM Dry Tubes.

The Jet Pump restrainer screws were again inspected (80 tack welds). The conditions were unchanged this outage on Jet Pump No.15, which had one of 2 tack welds cracked. No additional cracked welds were found. The condition identified previously did not require repair this outage.

Extensive inspection of Core Spray internal piping and spargers were performed per BWRVIP-18 Guidelines. No indications of cracking were identified. All accessible areas of welds were inspected with the exception of the P-1 weld, which is inaccessible for inspection.

No adverse changes in existing indications were noted. The RPV internals are in very good condition to date. There is no service related degradation that should impact plant performance during the next operating cycle. Internal inspections are achieving their goal of detecting and monitoring degradation and effecting prudent repairs/replacement to maintain the plant in a safe and reliable manner.

5.3.2 RPV External Volumetric and ASME Piping Weld Examinations

No service related defects were detected during RF-07 by nondestructive examinations performed.

5.3.3 Component Supports

Hanger E11-3184-G18 was found to have a loose jamb nut on the main strut and was tightened. It was determined that this did affect operability.

Hangers N30-3258-G02, G03, G08, G10, G11, G12, G14, G15, G16, N30-3259-G06, G07 and G08 were found with notches worn on the threaded rod at the top of the support. This condition was evaluated and it was determined that this did not impact component operability. Hangers N30-3258-G07 and G08 the notches were blended to remove sharp edges.

Hangers N30-3258-G04 and G15 were found to be slightly outside their cold setting. It was determined that this did not impact component operability. The hangers were reset to their cold position.

These conditions were not reportable.

5.4 Refuel-06

5.4.1 RPV Internals

During RF-06 inspections were conducted on numerous reactor vessel components utilizing the recommended inspection methods and techniques contained in various Boiling Water Reactor Vessel Internals Project (BWRVIP) inspection and examination guidelines. While it is true that many of the guidelines are not yet approved by the NRC, the intent was to perform the highest quality visual inspections on RPV components. This proactive approach will assure the structural integrity of RPV components.

Inspections were initially scheduled for 50% of the Jet Pump risers and assemblies to comply with BWRVIP inspection recommendations. These inspection points included welds not previously inspected on the risers. A crack approximately 1 ¾" long was identified on the thermal sleeve to elbow weld (RS-1) on the riser of Jet Pumps 7 and 8 at 120^0 AZ. This

indication was evaluated and found acceptable for continued operation without repair. Re-inspection of this indication will be performed during RF-07. This crack is similar to indications identified in at least 5 other BWR plants within the last year.

Inspections of 2 of the 20 original control rod blades identified cracking on the sheath area near the handle on blade 02-39. These indications were evaluated and are not detrimental to the operation of the control blade. However, Reactor Engineering is evaluating future inspection requirements for the additional old style blades. While not a code inspection, these blades are periodically inspected as recommended by General Electric, following the chemistry transient in 1993.

Several new indications were identified on the steam dryer assembly on welds or areas not previously inspected. These indications are similar to other previously reported indications on the dryer. Both ISI and General Electric evaluated the indications. No repairs were required during RF-06, but recommendations were made to re-inspect the non-safety related dryer assembly, both visually and ultrasonically in future outages.

Indications and conditions identified during previous outages were reinspected during RF-06. The reinspection included the following items with no further degradation identified.

- Core Shroud ID linear indication above the H2 weld.
- Steam Dryer tie rod nut to washer tack welds cracks and support ring.
- Shroud head bolt No.9 was replaced because it would not latch.
- RPV internal surfaces - "Bathtub Ring".

The Jet Pump restrainer screws were again inspected (80 tack welds). The conditions were unchanged this outage on Jet Pump No.15, which had one of 2 tack welds cracked. No additional cracked welds were found. The condition identified previously did not require repair this outage.

Extensive inspection of Core Spray internal piping and spargers were performed per BWRVIP-18 to address recent industry occurrences of cracking. No indications of cracking were identified.

The Core Shroud was ultrasonically inspected as required by NRC commitment in accordance with the latest techniques and methods included in the BWRVIP inspection standards. Fermi 2 surpassed eight years of hot operating time, as a result inspection of the H3, H4, H5, and H7 welds were required. Inspections were performed using focused phased array ultrasonic techniques. This inspection identified no evidence of IGSCC in the welds and because of the extensive coverage obtained with the GE tooling, reinspection will not be required for 6 years.

No adverse changes in existing indications were noted. The RPV internals are in very good condition to date. There is no service related degradation that should impact plant performance during the next operating cycle. Internal inspections are achieving their goal of detecting and monitoring degradation and effecting prudent repairs/replacement to maintain the plant in a safe and reliable manner.

5.4.2 External Volumetric and ASME Piping Weld Examinations

No service related defects were detected during RF-06 by nondestructive examinations performed.

Examinations were encountered with physical limitations that prevented complete code coverage from being achieved. Relief requests have been prepared or are being revised to address all limitations encountered during the First Inspection Interval.

NDE examinations have verified that ASME piping systems are in good structural condition and can support safe and reliable operation during the next operating cycle.

5.4.3 Component Supports

Eight component supports were discovered with minor service related discrepancies from the RF-06 inspection population of 138 component supports. Structural integrity evaluations were performed which concluded all component supports satisfied operability requirements. Therefore, no reportable conditions exist.

5.5 Refuel-05

5.5.1 RPV Internals

During RF-05 two new concerns were identified and evaluated. Nine of the twelve SRM / IRM dry tubes were found not to be fully engaged in the top guide, but are sufficiently engaged to remain functional.

One of the two tack welds on a Jet Pump restrainer screw were found to be cracked. As a result, all 80 restrainer screw tack welds were inspected. No additional cracked welds were found. This condition did not require repair this outage.

Extensive inspection of Core Spray internal piping and spargers was performed to address recent industry occurrences of cracking. No indications of cracking were identified.

Indications identified during previous outages were reinspected during RF-05. The reinspection included the following items:

- Core Shroud ID linear indications above the H2 weld.
- Steam Dryer tie-rod nut to washer tack welds cracks.
- Steam dryer support ring.
- RPV internal surfaces at the "bathtub ring".

No adverse changes in existing indications were noted. The RPV internals are in very good condition to date. There is no service related degradation that should impact plant performance during the next operating cycle. Internals inspections are achieving their goal of detecting and monitoring degredation and effecting prudent repairs/replacements to maintain the plant in a safe and reliable manner.

Repairs or Replacements Completed	Outage(s)
Shroud Head Bolt replacement	RF-04, RF-05
Jet-Pump Beam replacement	RF-04
Steam Dryer End Panel repair welding	RF-03

5.5.2 Reactor Pressure Vessel External/Volumetric and ASME Piping Weld Examinations

No service related defects were detected during nondestructive examinations performed during RF-05. While it is still to early to draw any global conclusions about effectiveness of IGSCC mitigation treatments (IHSI, and MSIP) performed at Fermi, preliminary indications are good. No IGSCC has been detected to date in any piping welds. Additionally, no evidence of fatigue cracking has been detected in any RPV, piping system, or support welds.

5.5.3 Component Supports

Several component supports were found with discrepancies between the existing field configuration versus as-built hanger sketch. Deviation Event Reports were issued to perform structural integrity calculations. These evaluations determined that the existing field configurations did not effect the component operability; no reportable configurations were found. No additional component supports were examined as a result of these observations.

5.6 Refuel-04

5.6.1 RPV Internals

During inspection of the RPV Internals/Internal Components a number of indications were reported to Detroit Edison for review/disposition. The reported conditions are listed as follows:

Core Shroud - Extensive Visual Examination of the Core Shroud outside surface welds was performed following hydrolazing of each weld. The circumferential welds on the outside surface of the Core Shroud were visually examined (VT-1) to the maximum extent possible from the H-1 weld through the H-7 weld with no indications being found. The H-8 and H-9 shroud support welds were also examined (VT-3) but from a greater distance and at a greater camera angle. No indications were found.

Core Shroud Inside Surface - The inside surface of the Core Shroud was inspected to the maximum extent on the H-2 through H-4 welds (VT-1). No indications were found on the H-3 and H-4 welds on the inside surface of the shroud. Two small indications <1-inch long were found at the 125° azimuth just above the H-2 weld but not in the H-2 weld. These indications were in a general vertical direction, jagged in nature, and tight with no visible separation. These indications appear to be different from indications found at other BWR's and most probably are a result of cold working during the fabrication process. These indications were evaluated against established flaw screening criteria and have no significant effect on the structural integrity of the shroud (reference deviation event report, DER 94-0221).

Corrosion Deposits/Biological Growth Deposits - Unusual surface conditions were identified during IVVI examinations on the unclad feedwater nozzles and also on the RPV cladding near the steam line nozzles 360° around the vessel. As a result, a sampling dive into the RPV was performed. A diver successfully completed the necessary corrosion product sampling, visual examinations, and exploratory examinations in the Reactor Vessel. Corrosion deposit samples were removed from both the "C" feedwater nozzle unclad area (150°) and the cladding at approximately the same azimuth. Based on the results of the sampling, there was no evidence of micro biologically induced corrosion (MIC) in the vessel, although the samples did test positive for the presence of bacteria. (DER 94-0204)

Additionally, the diver found (loose corrosion) on the feedwater nozzles. The deposits were easy to scrape off. There was no base metal attachment to the unclad surfaces. The corrosion

deposits on the vessel cladding (360°) were found to be more tightly adhered than the deposits on the feedwater nozzles. However, the vessel cladding corrosion deposits have been looked at and have been confirmed that there had been no base metal attack.

No pits or degradation of the cladding were identified. A special hydrolazing nozzle was utilized to remove the corrosion deposits on both the feedwater nozzles and the vessel cladding. The hydrolyzing was 100 percent effective in cleaning the feedwater nozzles and approximately 75 percent effective in removing the deposits on the vessel cladding.

Steam Dryer - Tie Rod Nut/Washer Tack Welds - Many of the 48 tie rod end washers/nuts protrude above the unit end plate surface. Fifteen of the protruding tie rods had cracked tack welds; however, all but 4 of these had at least 2 intact tack welds at each location. The remaining 4 tie rod nut/washers which had failed tack welds did not represent a structural or functional concern. There is little or no concern that these four nuts will back out during the current cycle with the remaining sound welds. Repairs made during RF-03 on the hood to end panel welds were re-inspected and found to be in good condition. (DER 94-0194)

Steam Dryer Support Ring - Two small indications were identified on the steam dryer support ring this outage; one indication was approximately 1/2" in length on the vertical face of the ring, the other indication was 4" - 6" in length on the horizontal face of the support ring. Based on experience with support ring cracking on similar dryers, these indications were caused by IGSCC. The primary source of stress is residual fabrication stress. Based on experience from similar dryers of the same design with more severe cracking, this crack does not present a concern for the structural adequacy of the support ring. (DER 94-0194)

Shroud Head Bolts - All Shroud Head Bolts were examined using Improved Ultrasonic Testing procedures. Crack-like indications were found in 16 of 48 bolts. The crack location was identical to those found at other BWRs (i.e., at the collar crevice). The 16 cracked bolts were replaced with those of a new and more IGSCC crack resistant design. A 17th bolt was replaced since it had a slight bow that precluded reinstallation. The remaining old design bolts which had no indications were reviewed and found to be acceptable for the next operation cycle. These bolts were reinstalled returning the configuration to the original design of 48 bolts. A design review was performed, in part, to determine the structural significance of operating with indications in 16 shroud head bolts. This review determined that only 20 bolts are required to fulfill design requirements. (DER 94-0210)

Jet Pump Hold Down Beams - As a precaution Detroit Edison replaced the (20) Jet Pump hold down beams. This was done as a conservative measure based on recent industry experience with beam cracking and possible deleterious effects from the chemistry transient. Following replacement Detroit Edison performed a baseline pre-service examination of the installed beams prior to plant start-up using the latest available technique for detecting cracking. Of the 20 Jet Pump assemblies, 12 beam bolt assemblies were changed in situ, 7 required that the inlet mixer assembly be removed, and 2 mixer assemblies were removed to permit camera access to the RPV bottom head area. Each mixer which was removed had a camera inserted for RPV bottom area examination. No discrepancies were observed. (DER 93-0643)

5.7 Refuel-03

5.7.1 RPV Internals

During inspection of the RPV Internals/Internal Components two cracks were reported to Detroit Edison for review/disposition. The reported conditions are listed as follows:

Crack Number 1 was located in hood to end plate weld HE-B-1. The crack was approximately 50" long, with a maximum gap of 1/2 inch. The crack ran through the throat of the weld and was caused by high cycle fatigue. This crack is not uncommon to the industry, having occurred at other plants.

Crack Number 2 is located in the end plate of dryer bank "A" just above the weld to the end plate of the drain trough. The crack is in the weld heat affected zone (HAZ) between Tie Rods TR-A-7 and TR-A-8. The crack is caused by Intergranular Stress Corrosion Cracking (IGSCC).

Crack Number 1 was repaired by grinding out the existing failed weld and preparing the base metal edges for the new weld, clamping the crack closed, rewelding the hood to end plate joint, and welding a new reinforcing plate over the replaced/existing weld. With the exception of the original failed weld repair, this repair process was repeated at three (3) similar locations where the potential future weld failure was high. This was performed as a preventive measure to preclude future joint failure, higher personnel exposure, and higher future repair costs.

An evaluation was performed on Crack Number 2, and it was determined that this crack did not require repair as there is low probability that this crack will propagate into weld or base metal outside the HAZ. The crack will tend to grow at a slow rate, as the stresses at this crack location during dryer operation are low. Crack Number 2 will continue to be monitored during future outages.

These indications previously identified during inspections performed in RF-01 and RF-02 were again reinspected with no change in conditions noted. These areas in addition to the cracks identified and repairs performed during RF-03 will be monitored during further inspection of the RPV internals as required by ASME Section XI, Table IWB-2500-1 (B13.10).

5.7.2 Component Supports

Several hangers were found with discrepancies between the installed condition and their configuration documents. Deviation Event Report (DER) 92-0573 was initiated for evaluation. It was determined that their nature was such that it did not effect the components operability and was not reportable. No additional supports were inspected as a result of these observations.

5.8 Refuel-02

5.8.1 RPV Internals

During inspection of the RPV Internals/Internal Components an additional indication to the ones previously identified during RF-01 was reported to Detroit Edison for review/disposition. The reported indications are listed as follows:

An apparent arc strike was noted on core spray internal piping at 310°. This was not recorded in the previous inspection.

This condition and those previously identified during RF-01 were evaluated using prudent engineering practices and were determined not to be non-conforming to the original design requirement or detrimental to continued service.

No corrective action was taken to repair these indications. These areas will be monitored during future inspections of the RPV internals as required by ASME Section XI, Table IWB-2500-1 (B13.10)

5.8.2 Piping Welds

No service related defects were detected during the inspection of piping welds, 2 welds having rejectable indications were reported to Detroit Edison for review/disposition. The reported indications are listed as follows:

Weld SW-E11-3151-1WH had rejectable surface indications identified during the magnetic particle examination; deviation event report DER 91-0262 was initiated for evaluation.

Weld SW-RD-2-B3-W5LU-B had rejectable surface indications identified during the liquid penetrant examination; DER 91-0234 was initiated for evaluation.

Both welds were subsequently blend ground to remove the indications and reexamined by both surface and volumetric techniques with acceptable results. The initial indications on both welds were most likely left over from construction. No additional welds were inspected as a result of these minor indications.

5.9 Refuel-01

5.9.1 RPV Internals

During inspection of the RPV Internals/Internal Components several conditions were reported to Detroit Edison for review/disposition. The reported indications are listed as follows:

Tack weld on feedwater sparger bracket at 180° for attachment nut/pin was not visible.

Unusual surface conditions (arc strikes and pitting) were noted on Loop A Core Spray Piping at approximately 140°. Additional light scratches were noted on both Loop A and Loop B Core Spray Internal Piping.

Small arc strikes were noted on the Core Spray Internal piping/sparger brackets at 15° and 150°.

A small arc strike was noted on the Upper Core Spray Sparger (shroud area) at 145°.

The above conditions were evaluated using prudent engineering practices and were determined not to be non-conforming to the original design requirement or detrimental to continued service.

No corrective action was taken to repair these indications. These areas will be monitored during future inspections of the RPV internals as require by ASME Section XI, Table IWB-2500-1 (B13.10)

5.9.2 Component Supports

Hanger T48-2097-G21 was found to have insufficient clearances. Deviation Event Report (DER) 89-1315 was initiated for evaluation. It was determined that this was not reportable. The hanger was reworked to provide acceptable clearances as specified on the hanger sketch. Additional adjacent supports were visually inspected with no discrepancies identified.

SECTION 6

PROGRAM STATUS, ASME SECTION XI CREDIT – IWB, IWC & IWF

6. PROGRAM STATUS, ASME SECTION XI CREDIT - IWB, IWC, & IWF, Interval 2, Period 2, Refuel-09 (Excludes Pressure Testing)

6.1 CATEGORY B-A

6.1.1 CATEGORY: B-A Pressure Retaining Welds in Reactor Vessel

ITEM NO: B.1.11 Shell Welds-Circumferential

System	Total Comp.	Total Requiring Examination	Examined To Date	Examined To Date (%)
RPV	4	4 (Note 1)	0	0%
TOTALS:	4	4 (Note 1)	0	0%

NOTE

(1) Relief Request RR-A25 was written to negate the need for examination of these welds beyond the overlap zone of the intersecting longitudinal seam.

6.1.2 CATEGORY: B-A Pressure Retaining Welds in Reactor Vessel

ITEM NO: B.1.12 Shell Welds - Longitudinal

System	Total Comp.	Total Requiring Examination	Examined To Date	Examined To Date (%)
RPV	14	14	7	50%
TOTALS:	14	14	7	50%

6.1.3 CATEGORY: B-A Pressure Retaining Welds in Reactor Vessel
ITEM NO: B.1.21 Head Welds - Circumferential

System	Total Comp.	Total Requiring Examination	Examined To Date	Examined To Date (%)
RPV Closure Head	2	2	1	50%
RPV Bottom Head	2	1 (1)	.5	50%
TOTALS	4	3 (1)	1.5	50.0%

NOTE

(1) Some of these examinations are subject to limitations as identified in ISI/NDE Program Plan, Table A. Relief Request RR-A1 documents these limitations.

6.1.4 CATEGORY: B-A Pressure Retaining Welds in Reactor Vessel
ITEM NO: B1.22 Head Welds - Meridional

System	Total Comp	Total Requiring Examination	Examined To Date	Examined To Date (%)
RPV Closure Head	13	13	6	46.2%
RPV Bottom Head	17	10(1)	6	60%
TOTALS:	30	23 (1)	12	52.2%

NOTE

(1) Some of these examinations are subject to limitations or are inaccessible as identified in ISI/NDE Program Table A. Relief Request RR-A1 documents these limitations.

6.1.5 CATEGORY: B-A Pressure Retaining Welds in Reactor Vessel

ITEM NO: B1.30 Shell-To-Flange

System	Total Comp.	Total Requiring Examination	Examined To Date	Examined To Date (%) (1)
RPV	1	1	.5	50%
TOTALS:	1	1	.5	50%

NOTES

(1) The examination of shell-to-flange welds may be performed during the first and third inspection periods in conjunction with the nozzle examinations of Exam. Cat. B-D (Program B). At least 50% of shell-to-flange welds shall be examined by the end of the first inspection period, and the remainder by the end of the third inspection period. (Ref. IWB-2500-1, Category B-A, Footnote (4)).

6.1.6 CATEGORY: B-A Pressure Retaining Welds in Reactor Vessel

ITEM NO: B1.40 Head-To-Flange

System	Total Comp.	Total Requiring Examination	Examined To Date	Examined To Date (%)
RPV	1	1	.33 (1)	33.3%
TOTALS:	1	1	.33 (1)	33.3%

CATEGORY B-A Totals

Item No.	Total Requiring Examination (3)	Examined To Date (2)	Minimum Required (1)	Maximum Allowed (2)
B1.11	4	0(0%)	N/A	N/A
B1.12	14	7 (50%)	N/A	N/A
B1.21	3	1.5 (50%)	N/A	N/A
B1.22	23	12 (52.2%)	N/A	N/A
B1.30	1	.5 (50%)	N/A	N/A
B1.40	1	.33 (33.3%)	N/A	N/A
TOTALS:	46	21.3 (46.3%)	N/A	67%

NOTES

(1) Table IWB-2500-1 allows deferral to the end of the inspection interval. However, maximum credited/allowed shall not exceed percentages provided in Table IWB-2412-1.

(2) Exam percentage requirements are based on category totals, not item totals. Item percentages are provided for information only.

(3) Some of these examinations are subject to limitations or are inaccessible as identified in ISI/NDE Program Plan A Table. Relief Request RR-A1 documents these limitations.

6.2 CATEGORY B-D

6.2.1 CATEGORY: B-D Full Penetration Welds of Nozzles in Vessels

ITEM NO: B3.90 Nozzle-To-Vessel Welds

System	Total Comp.	Total Requiring Examination	Examined To Date	Examined To Date (%) (1)
RPV	30	30	17	56.6%
TOTALS:	30	30	17	56.6%

NOTE

(1) At least 25% but not more than 50% (credited) of the nozzles shall be examined by the end of the first inspection period and the remainder by the end of the inspection interval (Ref. Table IWB-2500-1, Category B-D, Footnote (2)).

6.2.2 CATEGORY: B-D Full Penetration Welds of Nozzles in Vessels

ITEM NO: B3.100 Nozzle Inside Radius Section

System	Total Comp.	Total Requiring Examination	Examined To Date	Examined To Date (%) (1)
RPV	30	30	19	63.3%
TOTALS:	30	30	19	63.3%

NOTE

(1) At least 25% but not more than 50% (credited) of the nozzles shall be examined by the end of the first inspection period and the remainder by the end of the inspection interval (Ref. Table IWB-2500-1, Category B-D, Footnote (2)).

CATEGORY B-D TOTALS

Item No.	Category B-D Totals Total Requiring Examination	Examined to Date	Minimum Required (1)	Maximum Allowed (1)
B3.90	30	17 (56.6%)	25%	N/A
B3.100	30	19 (63.3%)	25%	N/A
TOTALS:	60	36 (60%)	25%	N/A

NOTE

(1) At least 25% but not more than 50% (credited) of the nozzles shall be examined by the end of the first inspection period and the remainder by the end of the inspection interval (Ref. Table IWB-2500-1, Category B-D, Footnote (2)).

6.3 CATEGORY B-F

6.3.1 CATEGORY: B-F Pressure Retaining Dissimilar Metal Welds
ITEM NO: B5.10 RPV Nozzle to Safe End Butt Welds ≥ 4" Dia.

System	Total Comp.	Total Requiring Examination	Examined To Date	Examined To Date (%)
RRS	12	4	1	25%
CS	2	2	1	50%
RPV	3	2	1	50%
TOTALS:	17	8	3	37.5%

6.3.2 CATEGORY: B-F Pressure Retaining Dissimilar Metal Welds
ITEM NO: B5.20 RPV Nozzle to Safe End Butt Welds ≤ 4" Dia.

System	Total Comp.	Total Requiring Examination	Examined To Date	Examined To Date (%)
SLC	1	1	1	100%
TOTALS:	1	1	1	100%

6.3.3 CATEGORY: B-F Pressure Retaining Dissimilar Metal Welds
ITEM NO: B5.130 Piping Butt Welds ≥ 4" Dia.

System	Total Comp.	Total Requiring Examination	Examined To Date	Examined To Date (%)
RHR	3	2	1	50%
CS	2	2	1	50%
RWCU	2	0	0	0%
TOTALS:	7	4	2	50%

CATEGORY B-F TOTALS

Item No.	Category B-F Totals Total Requiring Examination (1)	Examined to Date	Minimum Required	Maximum Allowed
B5.10	8	3 (37.5%)	(2)	(2)
B5.20	1	1 (100%)	(2)	(2)
B5.130	4	2 (50%)	(2)	(2)
TOTALS:	13	6 (46.1%)	16%	67%

NOTES

(1) Risk Informed Inservice Inspection (RIISI) Program sample size.

(2) Exam percentage requirements are based on Category totals, not item totals. Item percentages are supplied for information only.

6.4 CATEGORY B-G-1

6.4.1 CATEGORY: B-G-1 Pressure Retaining Bolting Greater than 2" in Dia.
ITEM NO: B6.10 Closure Head Nuts

System	Total Comp.	Total Requiring Examination	Examined To Date	Examined To Date (%)
RPV	68	68	45	66.2%
TOTALS:	68	68	45	66.2%

6.4.2 CATEGORY: B-G-1 Pressure Retaining Bolting Greater than 2" in Dia.
ITEM NO: B6.20 Closure Studs in Place

System	Total Comp.	Total Requiring Examination	Examined To Date	Examined To Date (%)
RPV	68	64 (1)	19	29.7%
TOTALS:	68	64 (1)	19	29.7%

NOTES

(1) Inspections are performed in conjunction with item No. B6.30. Four (4) studs are removed at each Reactor Refuel.

6.4.3 CATEGORY: B-G-1 Pressure Retaining Bolting Greater than 2" in Dia.
ITEM NO: B6.30 Closure Head Studs when Removed

System	Total Comp.	Total Requiring Examination	Examined To Date	Examined To Date (%)
RPV	68	4 (1)	4	100%
TOTALS:	68	4 (1)	4	100%

NOTES

(1) Inspections are performed in conjunction with item No. B6.20. Four (4) studs are removed at each Reactor Refuel.

6.4.4 CATEGORY: B-G-1 Pressure Retaining Bolting Greater than 2" in Dia.
ITEM NO: B6.40 Reactor Vessel Threads in Flange

System	Total Comp.	Total Requiring Examination	Examined To Date	Examined To Date (%)
RPV	68	68	45	66.2%
TOTALS:	68	68	45	66.2%

6.4.5 CATEGORY: B-G-1 Pressure Retaining Bolting Greater than 2" in Dia.
ITEM NO: B6.50 Reactor Vessel Closure Washers, Bushings (When Removed)

System	Total Comp.	Total Requiring Examination	Examined To Date	Examined To Date (%)
	Washers			
RPV	68	68	45	66.2%
	Bushings			
	68	68 (1)	0	0%
TOTALS:	136	136 (1)	45	33.1%

NOTE

(1) Inspection of bushings is only required for connections that are disassembled.

6.4.6 CATEGORY: B-G-1 Pressure Retaining Bolting Greater than 2" in Dia.
ITEM NO: B6.180 Pumps, Bolts and Studs

System	Total Comp.	Total Requiring Examination	Examined To Date	Examined To Date (%)
RRS	32	32	16	50%
TOTALS:	32	32	16	50%

6.4.7 CATEGORY: B-G-1 Pressure Retaining Bolting Greater than 2" in Dia.
ITEM NO: B6.200 Pumps, Nuts, Bushings and Washers (1)

System	Total Comp.	Total Requiring Examination	Examined To Date (1)	Examined To Date (%)
RRS	32	32	16	50%
TOTALS:	32	32	16	50%

NOTES

(1) Inspections are performed in conjunction with Stud UT inspection per item B6.180.

CATEGORY B-G-1 TOTALS

Item No.	Total Requiring Examination	Examined To Date	Minimum Required	Maximum Allowed
B6.10	68	45 (66.2%)	(1)	(1)
B6.20	64	19 (29.7%)	(1)	(1)
B6.30	4	4 (100%)	(1)	(1)
B6.40	68	45 (66.2%)	(1)	(1)
B6.50	136 (2)	45 (33.1%)	(1)	(1)
B6.180	32	16 (50%)	(1)	(1)
B6.200	32	16 (50%)	(1)	(1)
TOTALS:	404	190 (47%)	16%	67%

NOTES

(1) Exam percentage requirement are based on Category totals, not item totals. Item percentages are shown for information only.

(2) Inspection of bushings is only required for connections that are disassembled.

6.5 CATEGORY B-G-2

6.5.1 CATEGORY: B-G-2 Pressure Retaining Bolting 2" and smaller in Dia..

ITEM NO: B7.10 Reactor Vessel-Bolts, Studs and Nuts

System	Total Comp.	Total Requiring Examination	Examined To Date	Examined To Date (%)
RPV	3	3 (1)	0	0%
TOTALS:	3	3 (1)	0	0%

NOTES

(1) Represents Flanged/Bolted Connections-All bolts, studs and nuts were examined for each flanged connection examined.

6.5.2 CATEGORY: B-G-2 Pressure Retaining Bolting 2" and smaller in Dia.

ITEM NO: B7.50 Piping-Bolts, Studs and Nuts

System	Total Comp.	Total Requiring Examination	Examined To Date	Examined To Date (%)
HPCI, & RCIC	2	2 (1)	2	100%
TOTALS:	2	2 (1)	2	100%

NOTES

(1) Represents Flanged/Bolted Connections-All bolts, studs and nuts were examined for each flanged connection examined.

6.5.3 CATEGORY: B-G-2 Pressure Retaining Bolting 2" and smaller in Dia.
ITEM NO: B7.60 Pump Bolts, Studs and Nuts, and Seal Bolting

System	Total Comp.	Total Requiring Examination	Examined To Date	Examined To Date (%)
RRC	2	2 (1)	0	0%
TOTALS:	2	2 (1)	0	0%

NOTES

(1) Represents flanged/bolted connections-all bolts, studs and nuts are examined for each connection examined.

6.5.4 CATEGORY: B-G-2 Pressure Retaining Bolting 2" and smaller in Dia.
ITEM NO: B7.70 Valves-Bolts, Studs and Nuts

System	Total Comp.	Total Requiring Examination (1)	Examined To Date (2)	Examined To Date (%)
MS	38	38	18	47.4%
RRS	4	4	2	50%
RHR	10	10	5	50%
CS	6	6	4	66.6%
HPCI	3	3	1	33.3%
RCIC	3	3	2	66.6%
RWCU	9	9	3	33.3%
FW	8	8	4	50%
TOTALS:	81	81	39	48.1%

NOTES

(1) Represents flanged/bolted connections-all bolts, studs and nuts were examined for each flanged connection examined.

(2) All replacement bolting material utilized was visually inspected.

6.5.5 CATEGORY: B-G-2 Pressure Retaining Bolting 2" and smaller in Dia.

ITEM NO: B7.80 CRD Housings-Bolts, Studs and Nuts

System	Total Comp.	Total Requiring Examination	Examined To Date	Examined To Date (%)
CRD	185	185 (1)	47 sets*	25.4%
TOTALS:	185	185 (1)	47 sets*	25.4%

*100% of disassembled flange bolting.

NOTES

(1) Inspections are only required when CRD Housing Flanges are disassembled (Ref. Table IWB-2500-1, Category B-G-2)

CATEGORY B-G-2 TOTALS

Item No.	Total Requiring Examination	Examined To Date (2)	Minimum Required	Maximum Allowed
B7.10	3	0 (0%)	(1)	(1)
B7.50	2	2 (100%)	(1)	(1)
B7.60	2	0 (0%)	(1)	(1)
B7.70	81	39 (48.1%)	(1)	(1)
B7.80	185 (2)	47 (25.4%)	(1)	(1)
	273	88 (32.2%)	16%	67%

NOTES

(1) Exam percentage requirements are based on category totals not item totals. Item packages are supplied for information only.

(2) Inspections are only required when CRD housing flanges are disassembled.

6.6 CATEGORY B-H

6.6.1 CATEGORY: B-H Integral Attachments for Vessels

ITEM NO: B8.10 Reactor Vessel-Integrally Welded Attachments

System	Total Comp.	Total Requiring Examination	Examined To Date	Examined To Date (%)
RPV Support Skirt	2	2	.2	10%
Stabilizer Bracket Welds	8	1	1	100%
Top Head Lifting Lugs	4	4	0	0%
TOTALS:	14	7	1.2	17.1%

6.7 CATEGORY B-J

6.7.1 CATEGORY: B-J Pressure Retaining Welds in Piping

ITEM NO: B9.11 Circumferential Welds $\geq$ 4" Dia.

System	Total Comp.	Total Requiring Examination (1)	Examined To Date	Examined To Date (%)
MS	113	11	5	45.5%
RRS	109	15	5	33.3%
RHR	71	5	3	60%
CS	42	3	0	0%
HPCI	14	2	2	100%
RCIC	16	2	2	100%
RWCU	70	7	1	14.3%
FW	123	18	7	38.9%
RPV	5	0	0	N/A
TOTALS:	563	63	25	39.7%

(1) Risk Informed Inservice Inspection (RIISI) Program sample size.

CATEGORY B-J TOTALS

Item No.	Total Requiring Examination (1)	Examined To Date	Minimum Required (1)	Maximum Allowed (1)
B9.11	63	25 (39.7%)	16%	67%

NOTES

(1) Fermi Risk Informed Inservice Inspection Program sample size.

6.8 CATEGORY B-K-1

6.8.1 CATEGORY: B-K-1 Integral Attachments for Piping Pumps and Valves

ITEM NO: B10.10 / B10.20 Piping-Integrally Welded Attachments

System	Total Comp. (1)	Total Requiring Examination (2)	Examined To Date	Examined To Date (%) (3)
All Class 1 Piping B10.10	13	2 locations (8 welds)	1 location (4 welds)	50%
Pumps B10.20	3	1	0	0%
TOTALS:	16	3	1	33%

NOTES

(1) Total component supports with integral attachments selected for examination per Code Case N-491-1

(2) Total examinations required for integral attachments per Code Case N-509.

(3) One location examined each period.

6.9 CATEGORY B-M-2

6.9.1 CATEGORY: B-M-2 Valve Bodies

ITEM NO: B12.50 Valve Body, exceeding 4" Nominal Pipe Size

System	Total Comp.	Total Requiring Examination	Examined To Date (1)	Examined To Date (%)
MS	23	23	7	30.4%
RRS	4	4	0	0%
RHR	10	10	3	33.3%
CS	6	6	2	33.3%
HPCI	3	3	0	0%
RCIC	1	1	0	0%
RWCU	5	5	0	0%
FW	8	8	6	75%
TOTALS:	60	60	18	(1)

NOTE

(1) Per ASME Section XI IWB-2500-1 Table B-M-2 table note, the examinations are limited to one valve within each group of valves that are of the same constructional design and perform similar functions in the system. VT-3 inspections are performed on all Class 1 valves during disassembly for maintenance. Therefore, percentages are not applicable.

6.10 CATEGORY B-O

6.10.1 CATEGORY: B-O Pressure Retaining Welds In Control Rod Housings
ITEM NO: B14.10 (2) Reactor Vessel-Welds in CRD Housings

System	Total Comp.	Total Requiring Examination	Examined To Date	Examined To Date (%)	Minimum Req'd (%)	Maximum Allowed (%)
RPV	40	8 (1)	2	25%	16%	67%
TOTALS	40	8 (1)	2	25%	16%	67 (3)

NOTE

(1) 10% of peripheral housings (2 welds per housing).

(2) B14.10 is the only Item for this Category.

(3) Examinations evenly spaced during each period of the inspection interval.

6.11 CATEGORY C-A

6.11.1 CATEGORY: C-A Pressure Retaining Welds In Pressure Vessel
ITEM NO: C1.10 Shell Circumferential Welds

System	Total Comp.	Total Requiring Examination	Examined To Date	Examined To Date (%)
RHR	1	1	1	100%
TOTALS:	1	1	1	100%

6.11.2 CATEGORY: C-A Pressure Retaining Welds In Pressure Vessel

ITEM NO: C1.20 Head Circumferential Welds

System	Total Comp.	Total Requiring Examination	Examined To Date	Examined To Date (%)
RHR	1	1	0	0%
TOTALS:	1	1	0	0%

CATEGORY C-A TOTALS

Item No.	Total Requiring Examination	Examined To Date	Minimum Req'd (%)	Maximum Allowed (%) (1)
C1.10	1	1 (100%)	N/A	N/A
C1.20	1	0 (0%)	N/A	N/A
	2	1 (50%)	N/A (1)	N/A (1)

NOTES

(1) Exams scheduled for the 1st and 3rd period.

6.12 CATEGORY C-B

6.12.1 CATEGORY: C-B Pressure Retaining Welds In Vessels
ITEM NO: C2.21 Nozzle-To-Shell (or Head) Weld

System	Total Comp.	Total Requiring Examination	Examined To Date	Examined To Date (%)
RHR	4	2	1	50%
TOTALS:	4	2	1	50%

6.12.2 CATEGORY: C-B Pressure Retaining Nozzle Welds In Vessels
ITEM NO: C2.22 Nozzle Inside Radius Section

System	Total Comp.	Total Requiring Examination	Examined To Date	Examined To Date (%)
RHR	4	2	1	50%
TOTALS:	4	2	1	50%

CATEGORY C-B TOTALS

Item No.	Total Requiring Examination	Examined To Date	Minimum Req'd (%)	Maximum Allowed (%) (1)
C2.21	2	1(50%)	N/A	N/A
C2.22	2	1(50%)	N/A	N/A
	4	2(50%)	N/A (1)	N/A (1)

NOTES

(1) Exams scheduled for the 1st and 3rd examination period.

6.13 CATEGORY C-C

6.13.1 CATEGORY: C-C Integral Attachments for Vessels, Piping, Pumps and Valves
ITEM NO: C3.10 Pressure Vessels

System	Total Comp. (1)	Total Requiring Examination (2)	Examined To Date	Examined To Date (%)
RHR	5	1 (19 welds)	11 welds	57.9%
TOTALS:	5	1 (19 welds)	11 welds	57.9%

NOTES

(1) Total component supports with integral attachments welds selected for examination per Code Case N-491-1

(2) Total examinations required for integral attachment welds per Code Case N-509.

6.13.2 CATEGORY: C-C Integral Attachments for Vessels, Piping, Pumps and Valves
ITEM NO: C3.20 Piping Integrally Welded Attachments

System	Total Comp. (1)	Total Requiring Examination (2)	Examined To Date	Examined To Date (%)
All Class 2 Systems	33	3	1	33.3%
TOTALS:	33	3	1	33.3%

NOTES

(1) Total component supports with integral attachment welds selected for examination per Code Case N-491-1

(2) Total examinations required for integral attachment welds per Code Case N-509.

CATEGORY C-C TOTALS

Item No.	Total Comp. Requiring Exam	Examined To Date	Minimum Req'd (%)	Maximum Allowed (%)
C3.10	1	.58 (58%)	N/A	N/A
C3.20	3	1 (33.3%)	N/A	N/A
	4	1.58 (39.5%)	16%	67%

6.14 CATEGORY C-F

6.14.1 CATEGORY: C-F-1 Socket Welds (1)

ITEM NO: N/A, NRC Augmented Commitment

System	Total Comp.	Total Requiring Examination	Examined To Date	Examined To Date (%)
SLC	131	16	8	50%
TOTALS:	131	16	8	50%

NOTES

(1) The Class 2 portion of the Standby Liquid Control System is <4" NPS and is exempt per ASME Section XI. Fermi committed to examine 16 of 131 system welds during each inspection interval.

6.14.2 CATEGORY: C-F-2 Pressure Retaining Welds in Carbon or Low Alloy Steel Piping

ITEM NO: C5.51 / 5.81 Piping Welds ≥ 3/8" in Normal Wall Thickness for Piping > NPS

System	Total Comp.	Total Requiring Examination	Examined To Date	Examined To Date (%)
MS	74	6	4	66.6%
CRD	34	3	1	33.3%
RHR	464	34	18	52.9%
CGC	113	6	2	33.3%
HPCI	154	12	4	33.3%
CS	196	15	7	46.7%
Containment Piping (1)	279	23	10	43.5%
TOTALS:	1314	99	46	46.5%

NOTES

(1) Containment piping includes augmented selections made in accordance with Relief Request RR-A26.

CATEGORY C-F TOTALS

Item No.	Total Requiring Examination (1)	Examined To Date	Minimum Req'd (%) (2)	Maximum Allowed (%) (2)
C-F-1 (C5.11 Augmented)	16	8 (50%)	N/A	N/A
C-F-2 (C5.51 & C5.81)	99	46 (46.5%)	N/A	N/A
TOTALS:	115	54 (47%)	16%	67%

NOTES

(1) Includes Augmented Class 2 selections.

(2) Exam percentage requirements are based on Category C-F totals, not item totals. Item percentages are supplied for information only.

6.15 CATEGORY F-A

6.15.1 CATEGORY: F-A Plate and Shell Type Supports
ITEM NO: F1.10-F1.40

Section XI Class	System No.	System ID	Total Requiring Examination	Examined To Date	Examined To Date (%)
Class 1	B11	RPV	9	2	22.2%
	B21	Steam Supply	8	4	50%
	B31	Reactor Recirc	6	3	50%
	E11	RHR	3	1	33.3%
	E21	CS	3	2	66.7%
	E41	HPCI	1	0	0%
	E51	RCIC	1	1	100%
	G33	RWCU	5	1	20%
	N21	Feedwater	5	1	20%
		CLASS 1 TOTALS	41	15	36.6%
Class 2	B21	SRV	6	3	50%
	C11	CRD	4	3	75%
	E11	RHR	45	23	51.1%
	E21	CS	16	6	37.5%
	E41	HPCI	14	7	50%
	N30	MS	6	4	66.7%
	P11	Demin	1	1	100%
	T48	GCG	16	8	50%
		CLASS 2 TOTALS	108	55	50.9%
Class 3	E11	RHRSW	14	8	57.1%
	P42	RBCCW	1	1	100%
	P44	EECW	33	14	42.4%
	P45	EESW	18	7	38.9%
	R30	DGSW	10	6	60%
		CLASS 3 TOTALS	76	36	47.4%

TOTAL ALL CATEGORIES:F-A, F1.10-F1.40

	Total Requiring Examination	Examined To Date	Examined To Date (%)	Minimum Req'd (%)	Maximum Allowed (%)
F-A Class 1	41	15	36.6%	N/A	N/A
F-A Class 2	108	55	50.9%	N/A	N/A
F-A Class 3	76	36	47.4%	N/A	N/A
				N/A	N/A
TOTALS:	225	106	47.1%	16%	67%

SECTION 7

UPDATED PROGRAM TABLES

7.1 PROGRAM TABLES

7.1.1 Inservice Inspection Program (Plan) Tables (NDE)

The accompanying table lists the components or areas that are to be examined during the interval as updated for this refueling outage. Listed in an order following the items presented in the ASME Section XI, Subsections IWB, IWC, and IWD, the tables contain the following information:

Code Class: is the ASME class as defined in accordance with the **Code of Federal Regulations** 10CFR50.55a, Regulatory Guide 1.26, and NUREG 0800.

Interval: refers to the 120 month inspection interval as identified in Section 1.0 of this document.

Page/Rev.: indicates the consecutive and total page numbers for the NDE program. Rev. or Revision indicates the revision of the individual page or entire document.

Code Category: is the Examination Category as defined by ASME Section XI, Subarticles IWB-2500, IWC-2500 or IWD-2500.

Item Number: lists the Item No. as defined by ASME Section XI, Subarticles IWB-2500, IWC-2500, or IWD-2500. Note: all Item Numbers are addressed even though they may not be applicable to Fermi 2.

Description and Unique Identification: repeats the generic descriptions listed in tables IWB-2500-1, IWC-2500-1 or IWD-2500-1. The components to be examined are then listed by system and/or specific identification.

Exam Method-Exam Method Selected: identifies the code required method of examination i.e. Volumetric, Surface, or Visual. The specific examination selected is shown for the component i.e. UT, PT, MT, or VT (see list of abbreviations for expanded definitions).

Relief Request: if applicable, indicates the request for relief applicable in accordance with 10CFR50.55a (g) (5) (iii).

Augmented Exam Method: indicates the examination was required to meet a regulatory or licensing commitment and its outage code when completed or scheduled.

Sel. Basis: shows the abbreviation for the basis for selection of a component for examination.

Period: marks the 40 month period within the 120 month interval when the examination is scheduled (3 periods per interval).

NOTE

A tentative schedule of specific examinations has been completed for the second 10 year interval. All exams are scheduled for inspection in accordance with the rules of ASME Section - XI, IWA, IWB, IWC, IWD and IWF, and as augmented by specific commitments (i.e., NUREG 0313). Future revisions to this program (plan) shall be issued to reflect actual examinations to be performed during each refuel outage as well as all examinations completed during previous outages.

Remarks: are reserved for additional information to explain, amplify, or provide added details necessary to clarify the examination requirements.

7.1.1.1 Examination methods delineated in the following tables are intended to be representative of the ISI practice to be used or of preservice methods utilized. In either case, it should be recognized that either UT or RT is acceptable volumetric exams and either PT or MT is acceptable surface exams. Unique weld joint parameters may, of course, dictate more restrictive selection criteria; e.g., high background radiation will preclude RT, stainless materials will preclude MT, etc. It is intended that the process which selects exam methods for inspections under this plan treat UT and RT as interchangeable and PT and MT as interchangeable with consideration given to past practice in light of the reproducibility of results.

7.1.1.2 List of Abbreviations: The following abbreviations are used:

Plant Identification System (PIS) - Codes for Plant Systems

B21	- PIS Number for the Nuclear Boiler System
B31	- PIS Number for the Reactor Recirculation System
C11	- PIS Number for the Control Rod Drive System
C41	- PIS Number for the Standby Liquid Control System
E11	- PIS Number for the Residual Heat Removal System
E21	- PIS Number for the Core Spray System
E41	- PIS Number for the High Pressure Coolant Injection System
E51	- PIS Number for the Reactor Core Isolation Cooling System
G33	- PIS Number for the Reactor Water Cleanup System
G41	- PIS Number for the Fuel Pool Cooling System
N21	- PIS Number for the Feedwater System
N30	- PIS Number for the Main Steam System
T48	- PIS Number for the Combustible Gas Control System

Acronyms Used to Identify Plant Systems

CGC	- Combustible Gas Control
CRD	- Control Rod Drive
CS	- Core Spray
FPC	- Fuel Pool Cooling
HPCI	- High Pressure Coolant Injection
RCIC	- Reactor Core Isolation Cooling
RHR	- Residual Heat Removal
RRC	- Reactor Recirculation
RWCU	- Reactor Water Cleanup
SDV	- Scram Discharge Volume
SLC	- Standby Liquid Control

Nondestructive Examination Method Abbreviations

MT	- Magnetic Particle Examination
PT	- Liquid Penetrant Examination
UT	- Ultrasonic Examination
VT	- Visual Examination
VT-1	- Visual Examination per IWA-2211
VT-2	- Visual Examination per IWA-2212
VT-3	- Visual Examination per IWA-2213
UT Mech.	- UT Mechanized
UT Mech./Man.	- UT Mechanized or Manual

Weld Selection Basis Abbreviations

HCU	- High Cumulative Usage
HS	- High Stress
MS	- Moderate Stress
R	- Random selection of structural discontinuity weld
TE	- Terminal End
A	- Augmented
DM	- Dissimilar Metal Weld
RI	- Risk Informed Methodology

Degradation Mechanisms

IGSCC	-Intergranular Stress Corrosion Cracking
CC	-Crevice Corrosion
TASCS	-Thermal Fatigue Cracking

Plant Components and Weld Terminology Abbreviations

CRDH	- Control Rod Drive Housing
EXPJT	- Pipe Expansion
FBC	- Field Weld
HX	- Heat Exchanger
HXS	- Heat Exchanger Shell
IBR	- Inner Bore Region (Nozzle)
IIH	- Incore Instrumentation Housing
LD	- Longitudinal Downstream (Seam Weld)
LU	- Longitudinal Upstream (Seam Weld)
PAD	- Integral Attachment Weld Directly onto the Pressure Boundary of the Pipe
PSFW	- Piping Support Field Weld
PS	- Primary Steam (Nuclear Steam Supply System)
RD	- Recirculation Discharge
RS	- Recirculation Suction
SDV	- Scram Discharge Volume
SW	- Shop Weld
TRUNION	- Hanger Support Welded Directly onto the Pressure Boundary of the Pipe
VBB	- Valve Body and Bonnet Housing

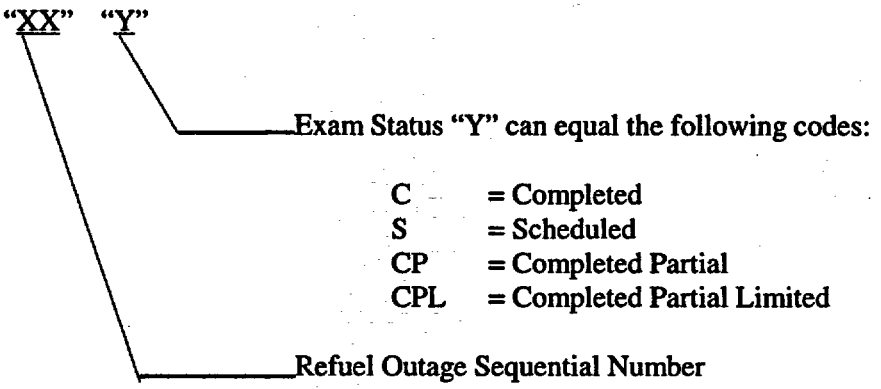
Generic Miscellaneous Abbreviations

BWR	- Boiling Water Reactor
CRC	- Corrosion Resistant Cladding
DWG	- Drawing
DM	- Dissimilar Metal Weld
EF2	- Enrico Fermi 2
in.	- Inches
N/A	- Not Applicable
NUREG	- Nuclear Regulatory Guide
PWR	- Pressurized Water Reactor
RR	- Relief Request
RPV	- Reactor Pressure Vessel

Component Support Abbreviations

A	- Anchor
C	- Constant Support
G	- Guide
R	- Rigid Support
SP	- Spring Hanger

Outage Codes



Example:	07C	= Seventh Refueling Outage, Completed Exam
	08S	= Eighth Refueling Outage, Scheduled Exam
	08CP	= Eighth Refueling Outage, Completed Exam, Partial
	08CPL	= Eighth Refueling Outage, Completed Exam, Partial Limited

7.1.2 Inservice Inspection Program (Plan) Tables (Component Supports)

7.1.2.1 The accompanying tables list the component supports to be examined during the first inspection interval. The tables are divided into ISI Class – 1,2, and 3 and start with Class – 1. The tables contain the following information:

Code Class: is the ASME class as defined in accordance with the **Code of Federal Regulations** (10CFR50.55a), Regulatory Guide 1.26, and NUREG 0800.

Interval: refers to the 120 month inspection interval as identified in Section 1.0 of this document.

Page/Rev.: indicates the consecutive and total page numbers for the NDE program. Rev. or Revision indicates the revision of the individual page or entire document.

Code Category: is the Examination Category as defined by ASME Section XI, Subarticle IWF.

Item Number: NOT USED – Because IWF category is the main selection determining factor for component supports, Item No. was not used to make hanger selections. The item Number depicts inspection points and therefore is more appropriately addressed in inspection procedures. The item Numbers for each category was used to identify the type of visual examination(s) each component support will receive and this information is provided in the tables.

PIS No./System: Identifies the Plant Identification System Number (PIS No.) and the System Title for each group of component supports to be examined.

Isometric/Multiple Loop: Identifies the specific isometric drawing applicable to a particular group of component supports and the Multiple Loop identification No. if applicable.

Unique Identification: Identifies the specific component support subject to examination.

Exam Method – Exam Method Selected: Identifies the code required method of examination (i.e. visual) and the specific examination selected for each component shown (i.e. VT-1, VT-3).

Type: Identifies the type of component support to be examined.

Relief Request: If applicable, indicates the request for relief applicable in accordance with 10CFR50.55a (g) (5) (iii).

Period: marks the 40 month period within the 120 month interval when the examination is scheduled (3 periods per interval).

Remarks: is reserved for additional information to explain, amplify, or provide added details necessary to clarify the examination requirements.

7.1.2.2 List of Abbreviations: For definitions of abbreviations used in the following tables, refer to Paragraph 10.1.2 of this document.

7.1.2.3 Inservice Inspection Program (Plan) Tables (NDE)

- Table A – Class 1, 2, and 3 Welds and Components
- Table B - Supports
- Table C - Snubbers

7.1.3 NOTES

NOTE 1

Examination categories B-F and B-J contain duplicate examination requirements for dissimilar metal pressure retaining welds in piping. Category B-J does not have a separate item number for dissimilar metal (DM) welds. Because of this all DM welds will be included in category B-F. This will aid in identification those welds that may have additional augmented, regulatory, or PDI requirements applied to them.

NOTE 2

By Detroit Edison Documents NRC-88-0243, NRC-89-0297, and NRC-90-0103, in response to Generic Letter 88-01 and NUREG-0313 Rev. 2, Detroit Edison had committed to the inservice inspection requirements for austenitic stainless steel welds in accordance with the guidelines of Generic Letter 88-01. All applicable welds have been classified according to NUREG-0313 Rev. 2 requirements with the required percentages of welds being included in this program. The applicable category (GL-88-01) is identified in the remarks column. All inspections will be performed utilizing procedures and personnel qualified to current Utility PDI Guidelines. In correspondence letter NRC-01-0038 Detroit Edison committed to use the NRC approved Generic Letter 88-01 alternative inspection schedule requirements of BWRVIP-75. Sample expansion will be as specified in the Fermi Risk Informed Inservice Inspection Program for Category A welds, and BWRVIP-75 for all other augmented weld selections. Methods and criteria for crack evaluation and repair shall be in conformance with IWB-3600 of Section XI of the 1989 Edition of ASME Boiler and Pressure Vessel Code. Detroit Edison requested that Non-Safety Related, Category D welds be removed from GL-88-01 scope per NRC-92-090. The NRC response (TAC No. M84117, 12-18-1992) modified the inspection interval such that inspection of the subject piping welds on a sampling basis of at least 10 percent of the weld population be performed during each refueling outage.

NOTE 3

Per the EF-2 UFSAR Subsection 4.5.1.2.7, Detroit Edison had agreed to ultrasonically inspect the RPV Jet Pump Hold Down Beams at each Reactor Refueling Outage until sufficient experience was gained to change the frequency of inspection. If a cracked beam were detected, it would be replaced prior to return to power operation. Due to the

failure of a jet pump hold down beams at another plant, SIL No. 330, Supplements 1 and 2, and RICSIL No. 065 were issued. As a result, during RF04 all jet pump hold down beams were replaced with beam assemblies that are less susceptible to IGSCC than the original assemblies. Subsequent UT and alternative inspections will be performed at future refueling outages based on industry experiences and the recommendations provided in IE Bulletin 80-07, NUREG/CR-3052, and the latest edition of BWRVIP-41. All beams were reinspected in RF09.

NOTE 4

ASME Section XI Category B-E requires inspection of the external surfaces of 25% nozzles among each group of penetrations of comparable size and function. Fermi practice is to perform a VT-2 examination inside the RPV bioshield annulus for RPV instrumentation nozzles, and of the bottom head penetrations through the skirt hatches, and under vessel during the system leakage test each refueling outage. If leakage is identified, further investigation will be made to identify the exact location.

NOTE 5

Component supports and the associated integrally welded attachments are selected for examination in accordance with Code Cases N-491-1 (Alternative Requirements for Selection and Examination of Component Supports) and N-509 (Alternative Rules for the Selection and Examination of Integrally Welded Attachments).

NOTE 6

Visual examination of snubbers covers only the snubber unit, except for those snubber supports selected in accordance with Code Case N-491-1. The balance of the support (Integral and nonintegral attachments including lugs, bolting, pins, clamps, and support steel) will be visually examined in accordance with subsection IWF requirements.

NOTE 7

Per SIL No. 420 an inspection will be performed on the jet pump sensing lines and support brackets when convenient. This inspection will determine if the weld between the support brackets and the vertical run of the sensing line is intact. Additionally, the inspection should concentrate on the jet pumps closest to the recirculation outlet nozzles. Inspection will be performed on the Jet Pumps scheduled for inspections during the refueling outage.

NOTE 8

Per NRC Information Notice No. 90-30 all dissimilar metal welds containing Inconel 600 series base materials, Alloy 82 and 182 weld butter, and/or filler metal shall be examined following the guidelines of SIL No. 455. It is essential and required that all examinations be performed by the use multiple refracted longitudinal waves (45° and 60° recommended) for crack detection and sizing in the Alloy 182 material and the low alloy material. All scanning of welds will be performed in both an axial and circumferential direction followed by a 45° shear wave if indications are identified using refracted longitudinal techniques. Examination of nozzle welds shall include the full thickness volume and be extended into the area of Alloy 182 Weld Material Buttering. The purpose of this additional/supplemental examination is to assure that Alloy 182 Butter Cracking in

the nozzle bore has not occurred and extended into the low alloy nozzle material. Beginning with RFO9, ASME Section XI, Appendix 8, Supplement 10 requirements as implemented by the Utility Performance Demonstration Initiative are mandatory.

NOTE 9

Per SIL No. 433, Supplement 1, an Ultrasonic (UT) inspection of the entire shroud head bolt length was performed on the 48 shroud head bolts for evidence of cracking during RF04. All bolts have been replaced with a new design that is more resistant to cracking. Based on industry experience additional inspections will be performed at subsequent refuel outages.

NOTE 10

During RF-06 the Reactor Recirculation Pumps were modified to the 4th generation design configuration. This configuration was designed to mitigate known causes of shaft and cover cracking and provides for ultrasonic inspection of the shaft without requiring complete pump disassembly and removal. This change out also included change out of the rotating element to a welded impeller and added rotating baffle. In addition, the hydrostatic bearing was modified to a non-welded design. The need to completely disassemble is reduced by modification to the 4th generation configuration. The following augmented inspections will be performed if the pump is disassembled. Per SIL No. 415, a supplemental liquid penetrant or volumetric inspection of the suction splitters will be performed if visual inspections identify cracking of the suction splitters or attachment welds. Per RICSIL No. 038 and NRC Information Notice 89-20 inspections will be performed on the hydrostatic bearing and baffle plate. Inspection of the heater/cooler assembly should be performed if the pump is disassembled. Disassembly of the pump for inspections will be evaluated prior to each refuel outage based upon industry experience and hours of operation.

NOTE 11

Per SIL No. 474, a visual inspection will be performed on steam dryer drain channel welds during refueling outages. Portions of the steam dryer assembly, dryer banks, and welds will be visually inspected each refueling outage.

NOTE 12

Per IE Bulletin 80-13, and SIL No. 289, Revision 1, Supplement 2, a visual inspection is performed on the core spray internal piping each Refuel Outage. Inspection points include those identified in IE Bulletin 80-13 and SIL No. 289, Revision 1, Supplement 2, and BWRVIP-18. The inspection plan will follow the inspection recommendations and frequency provided in BWRVIP-18 as detailed in PEP16, Appendix III.

NOTE 13

Per SIL No. 462, inspection of the shroud support access hole cover was performed at the end of the first 10-year interval. Subsequent re-inspections will be based on industry experience and the inspection technique applied. Refer to PEP16, Appendix II.

NOTE 14

All Inservice Examinations of the Reactor Pressure Vessel Welds will be performed using both manual and mechanical examination techniques and will most likely be performed from the outside of the vessel. Limitations encountered that affect the examination volume as prescribed by ASME Section XI will be documented in an examination report.

All previous examinations were conducted in accordance with the requirements of Regulatory Guide 1.150, Revision 1, to the extent practical (Ref. NRC-87-0078). Beginning with RFO8, ASME Section XI, Appendix VIII, Supplement 4 and 6 requirements for vessel welds were implemented as specified in 10CFR50.55a.

Indications, regardless of amplitude, will be recorded on tape during the mechanized examination for analysis. Similarly, signal responses will be scrutinized during the manual examination process and indications will be recorded for further analysis and resolution.

NOTE 15

Visual inspections for leakage required by ASME Section XI Code Categories B-P, C-H, and D-B is performed using site procedures. Test Packages for all tests performed are developed utilizing the Inservice Inspection Classification Boundary Drawings listed on Table A-5-5.1 as the basis.

All components on the following systems are included in the Class 1 inspections: B21, B31, C41, E11, E21, E41, E51, G33, N21, and P34.

All components on the following systems are included in the Class 2 inspections: C11, C41, E11, E21, E41, G41, G51, N11, N30, P34, T4804, and T50.

All components on the following systems are included in the Class 3 inspections: E11, P42, P44, P45, and R30.

NOTE 16

Per RICSIL No. 059 and SIL No. 554, inspection of the top guide beams should be performed at grid locations where fuel and blade guides have been removed for other reasons. Inspection of selected grid locations will be performed during refueling outages. Additionally, ultrasonic inspection should be considered if cracking is found or as recommended by SIL No. 554.

NOTE 17

The extent of inspection and frequency for Jet Pump components and welds will follow the recommendations provided in BWRVIP-41. BWRVIP-41 replaced/modified the recommendations of SIL Nos. 551 and 574. Inspections will continue to be performed per the recommendations of SIL No. 574 on the adjusting screw tack welds in conjunction with the inspection of those Jet Pumps scheduled for inspection each refuel. Repairs if required will be performed in accordance with the recommendations of SIL No. 574 as appropriate. In addition, verification of contact will be performed on the restrainer screws and wedge assembly to the inlet mixer on Jet Pumps selected for inspection per

the recommendations of RICSIL No. 078

NOTE 18

Per recommendation of SIL No. 571, augmented inspection of this stainless steel nozzle should be performed after 15 years of operation. The inspection boundary for this weld shall be extended to include all stainless steel material accessible for ultrasonic examination. If linear surface indications are found, ultrasonic examination should be used to determine crack depth. Inspection frequency has been modified per BWRVIP-27 to a 10 year re-inspection period.

NOTE 19

Visual inspection of the core shroud and shroud welds will be performed in accordance with the recommendations contained in BWRVIP "BWR Core Shroud Inspection and Flaw Evaluation Guideline" (BWRVIP-01) utilizing techniques detailed in BWRVIP "Reactor Pressure Vessel and Internals Examination Guidelines"(BWRVIP-03). SIL No. 572, Revision 1 inspection recommendations have been superceded. Fermi 2 has committed to perform future inspections per the guidance of the BWRVIP. Visual inspections will be performed as an enhanced EVT-1 inspection with the capability to resolve a 1/2-mil wire on the inspection surface. The BWRVIP has imposed additional guidelines for inspection based on years of operation, materials, and conductivity. Based on the above, during RF-06 a baseline inspection of the shroud welds (H-3, H-4, H-5, and H-7) was completed (approximately 90% volumetric coverage) utilizing an augmented ultrasonic phased array technique with no indication of service induced flaws. Future Core Shroud inspections will be performed in accordance with the BWRVIP Guidelines in BWRVIP-07 and BWRVIP-76. Core shroud support inspections will follow BWRVIP-038 and BWRVIP-104 guidelines utilizing approved techniques. Evaluation of anomalies shall be per the BWR Core Shroud Evaluation Reports (BWRVIP-01 and GENE-523-A53-0494). Additional references include SIL No. 572, Rev 1, RICSIL No. 054, Rev 1, RICSIL No. 068, RICSIL No. 077, Information Notices 93-079 and 94-042, and Generic Letter (GL) 94-03. GL 94-03 required advanced notification to the NRC of the proposed plan for Core Shroud inspection, evaluation and/or repair. Additional detail is provided in PEP16, Appendix I.

NOTE 20

Additional augmented examinations were performed during RF04 and changes were made to the inspection schedule for selected nozzle welds following the Turbine Generator Event and subsequent RPV chemistry transient for detection of IGSCC initiation.

NOTE 21

The new containment inspection requirements of ASME Section XI 1992 Edition, 1992 Addenda in effect for the Second Ten-year inspection interval changed the way containment system piping (between the isolation valves) are classified for ISI. IWE-1220(d) specifies that containment system piping is exempt from IWE requirements but shall be examined in accordance with the appropriate classification specified in the construction Design Specifications. This varies from the assumptions made during the first interval, when no IWE requirements were imposed. Relief Request RR-A26 documents Detroit Edison's proposed alternative examination requirements.

NOTE 22

Inspections in addition to those listed for item no's B13.10, B13.20, B13.30 and B13.40 will be scheduled and performed as detailed in PEP16. Augmented inspection requirements for selected components and welds are detailed in PEP16 Appendicies, including the implementation of various BWRVIP inspection recommendations.

INSERVICE INSPECTION NDE PROGRAM

TABLE A

Category / Item	Identification	Exams Require	Selection Basis	Isometric	Relief Request	Inspection Period 1	2	3	Remarks
B-A									
B1.11	**Circumferrential Shell Weld**								
1-313		UT	All B-A Welds	5360-5	RR-A25	N/A	N/A	N/A	Examined only at intersecting long seams
4-308A		UT	All B-A Welds	5360-5	RR-A25	N/A	N/A	N/A	Examined only at intersecting long seams
4-308B		UT	All B-A Welds	5360-5	RR-A25	N/A	N/A	N/A	Examined only at intersecting long seams
9-307		UT	All B-A Welds	5360-5	RR-A25	N/A	N/A	N/A	Examined only at intersecting long seams
B1.12	**Longitudinal Shell Weld**								
1-308A		UT	All B-A Welds	5360-5		08C			Note 14 Applies to all Category B-A Welds
1-308B		UT	All B-A Welds	5360-5		08C			
1-308C		UT	All B-A Welds	5360-5				12S	
1-308D		UT	All B-A Welds	5360-5				12S	
15-308A		UT	All B-A Welds	5360-5			10S		
15-308B		UT	All B-A Welds	5360-5			09C 10SP		CARD 03-16383, RF10 exam to size indication No. 124 only
15-308C		UT	All B-A Welds	5360-5		08C			
15-308D		UT	All B-A Welds	5360-5				11S	
2-307A		UT	All B-A Welds	5360-5		08C			
2-307B		UT	All B-A Welds	5360-5			10S		
2-307C		UT	All B-A Welds	5360-5			09C		
2-308A		UT	All B-A Welds	5360-5			10S		
2-308B		UT	All B-A Welds	5360-5			09C		
2-308C		UT	All B-A Welds	5360-5				11S	
B1.21	**Circumferrential Head Weld**								
4-319		UT	All B-A Welds	5360-5		08CP	09C		08 - 2-319C to 2-319E 40% 9 - 2-319E to 2-319C 60%
5-306		UT	All B-A Welds	5360-5	RR-A1				Inaccessible Weld
5-319		UT	All B-A Welds	5360-5				11S	
6-306		UT	All B-A Welds	5360-5		08C	10S		One sided exam 180-360 Deg, RF08, 0-180 Deg, RF10
B1.22	**Meridional Head Weld**								
1-306A		UT	All B-A Welds	5360-5		08C			

Category / Item	Identification	Exams Require	Selection Basis	Isometric	Relief Request	Inspection Period 1	2	3	Remarks
B-A									
B1.22	**Meridional Head Weld**								
1-306B		UT	All B-A Welds	5360-5			10S		
1-306C		UT	All B-A Welds	5360-5			10S		
1-306D		UT	All B-A Welds	5360-5		08C			
1-306E		UT	All B-A Welds	5360-5		08C			
1-306F		UT	All B-A Welds	5360-5				12S	
1-306G		UT	All B-A Welds	5360-5		08C			
1-306H		UT	All B-A Welds	5360-5				11S	
1-306J		UT	All B-A Welds	5360-5			09C		
1-306K		UT	All B-A Welds	5360-5		08C			
1-319A		UT	All B-A Welds	5360-5	RR-A1			12S	
1-319B		UT	All B-A Welds	5360-5		08C			
1-319C		UT	All B-A Welds	5360-5	RR-A1			12S	
1-319D		UT	All B-A Welds	5360-5			09C		
1-319E		UT	All B-A Welds	5360-5	RR-A1		10S		
1-319F		UT	All B-A Welds	5360-5			10S		
1-319G		UT	All B-A Welds	5360-5	RR-A1			12S	
1-319H		UT	All B-A Welds	5360-5		08C			
2-306A		UT	All B-A Welds	5360-5	RR-A1				Inaccessible Weld
2-306B		UT	All B-A Welds	5360-5	RR-A1				Inaccessible Weld
2-306C		UT	All B-A Welds	5360-5	RR-A1				Inaccessible Weld
2-306D		UT	All B-A Welds	5360-5	RR-A1				Inaccessible Weld
2-306E		UT	All B-A Welds	5360-5	RR-A1				Inaccessible Weld
2-306F		UT	All B-A Welds	5360-5	RR-A1				Inaccessible Weld
2-306G		UT	All B-A Welds	5360-5	RR-A1				Inaccessible Weld
2-319A		UT	All B-A Welds	5360-5		08C			
2-319B		UT	All B-A Welds	5360-5		08C			
2-319C		UT	All B-A Welds	5360-5		08C			
2-319D		UT	All B-A Welds	5360-5				11S	

Category / Item	Identification	Exams Require	Selection Basis	Isometric	Relief Request	Inspection Period 1	2	3	Remarks
B-A									
B1.22	**Meridional Head Weld**								
2-319E		UT	All B-A Welds	5360-5				11S	
B1.30	**Shell to Flange Weld**								
13-308 (from flange)		UT	All B-A Welds	5360-5	RR-A1	08CP		12SP	0-180 Deg, RF-08; 180- 0 Deg, RF-12
13-308 (from shell)		UT	All B-A Welds	5360-5	RR-A1	08CP	10SP	12SP	1/3 of weld each scheduled Inspection Period
B1.40	**Head to Flange Weld**								
3-319		UT/MT	All B-A Welds	5360-5		08CP	10SP	12SP	1/3 of weld each scheduled Inspection Period
B-D									
B3.100	**RPV Nozzle Inside Radius Section**								
13-314A IRS		VT	All BD-IRS	5361-5	RR-A32	08C			
13-314B IRS		VT	All BD-IRS	5361-5	RR-A32	08C			
13-314C IRS		VT	All BD-IRS	5361-5	RR-A32		10S		
13-314D IRS		VT	All BD-IRS	5361-5	RR-A32		09C		
13-314E IRS		VT	All BD-IRS	5361-5	RR-A32		09C		
13-314F IRS		VT	All BD-IRS	5361-5	RR-A32		09C		
13-314G IRS		VT	All BD-IRS	5361-5	RR-A32		09C		
13-314H IRS		VT	All BD-IRS	5361-5	RR-A32			12S	
13-314J IRS		VT	All BD-IRS	5361-5	RR-A32			11S	
13-314K IRS		VT	All BD-IRS	5361-5	RR-A32		09C		
14-316A IRS		VT	All BD-IRS	5361-5	RR-A32			12S	
14-316B IRS		VT	All BD-IRS	5361-5	RR-A32	08C			
15-315 IRS		VT	All BD-IRS	5361-5	RR-A31	08C			
19-314A IRS		VT	All BD Nozzles	5361-5	RR-A32		10S		
19-314B IRS		VT	All BD Nozzles	5361-5	RR-A32	08C			
2-318 IRS		UT	All BD Nozzles	5361-5	RR-A31		10S		
4-316A IBR		UT	A	5361-5		08CA			NUREG-0619/GE-NE-523-A71-594
4-316A IRS		UT	All BD-IRS	5361-5		08CA			NUREG-0619/GE-NE-523-A71-594
4-316B IBR		UT	A	5361-5		08CA			NUREG-0619/GE-NE-523-A71-594
4-316B IRS		UT	All BD-IRS	5361-5		08CA			NUREG-0619/GE-NE-523-A71-594

Category / Item	Identification	Exams Require	Selection Basis	Isometric	Relief Request	Inspection Period 1	2	3	Remarks
B-D									
B3.100	**RPV Nozzle Inside Radius Section**								
4-316C IBR		UT	A	5361-5		07CA			NUREG-0619/GE-NE-523-A71-594
4-316C IRS		UT	All BD-IRS	5361-5		07CA			NUREG-0619/GE-NE-523-A71-594
4-316D IBR		UT	A	5361-5		08CA			NUREG-0619/GE-NE-523-A71-594
4-316D IRS		UT	All BD-IRS	5361-5		08CA			NUREG-0619/GE-NE-523-A71-594
4-316E IBR		UT	A	5361-5		07CA			NUREG-0619/GE-NE-523-A71-594
4-316E IRS		UT	All BD-IRS	5361-5		07CA			NUREG-0619/GE-NE-523-A71-594
4-316F IBR		UT	A	5361-5		07CA			NUREG-0619/GE-NE-523-A71-594
4-316F IRS		UT	All BD-IRS	5361-5		07CA			NUREG-0619/GE-NE-523-A71-594
4-318A IRS		VT	All BD Nozzles	5361-5	RR-A31			11S	
4-318B IRS		VT	All BD Nozzles	5361-5	RR-A31			11S	
5-314A IRS		VT	All BD-IRS	5361-5	RR-A31	08C			
5-314B IRS		VT	All BD-IRS	5361-5	RR-A31			12S	
8-316A IRS		VT	All BD-IRS	5361-5	RR-A31	08C			
8-316B IRS		VT	All BD-IRS	5361-5	RR-A31	08C			
8-316C IRS		VT	All BD-IRS	5361-5	RR-A31			12S	
8-316D IRS		VT	All BD-IRS	5361-5	RR-A31			12S	
B3.90	**RPV Nozzle to Vessel Weld**								
13-314A		UT	All B-D Nozzles	5361-5	RR-A6	08C			
13-314B		UT	All B-D Nozzles	5361-5	RR-A6	08C			
13-314C		UT	All B-D Nozzles	5361-5	RR-A6		10S		
13-314D		UT	All B-D Nozzles	5361-5	RR-A6	08C			
13-314E		UT	All B-D Nozzles	5361-5	RR-A6		09C		
13-314F		UT	All B-D Nozzles	5361-5	RR-A6		09C		
13-314G		UT	All B-D Nozzles	5361-5	RR-A6	08C			
13-314H		UT	All B-D Nozzles	5361-5	RR-A6			12S	
13-314J		UT	All B-D Nozzles	5361-5	RR-A6			11S	
13-314K		UT	All B-D Nozzles	5361-5	RR-A6	08C			
14-316A		UT	All B-D Nozzles	5361-5	RR-A6		10S		

Category / Item	Identification	Exams Require	Selection Basis	Isometric	Relief Request	Inspection Period 1	2	3	Remarks
B-D									
B3.90	**RPV Nozzle to Vessel Weld**								
14-316B		UT	All B-D Nozzles	5361-5	RR-A6	08C			
15-315		UT	All B-D Nozzles	5361-5	RR-A6		09C		
19-314A		UT	All B-D Nozzles	5361-5	RR-A6		10S		
19-314B		UT	All B-D Nozzles	5361-5	RR-A6	08C			
2-318		UT	All B-D Nozzles	5361-5	RR-A6		10S		
4-316A		UT	All B-D Nozzles	5361-5	RR-A6	08C			
4-316B		UT	All B-D Nozzles	5361-5	RR-A6	08C			
4-316C		UT	All B-D Nozzles	5361-5	RR-A6		09C		
4-316D		UT	All B-D Nozzles	5361-5	RR-A6	08C			
4-316E		UT	All B-D Nozzles	5361-5	RR-A6			11S	
4-316F		UT	All B-D Nozzles	5361-5	RR-A6			11S	
4-318A		UT	All B-D Nozzles	5361-5	RR-A6			11S	
4-318B		UT	All B-D Nozzles	5361-5	RR-A6			11S	
5-314A		UT	All B-D Nozzles	5361-5	RR-A6	08C			
5-314B		UT	All B-D Nozzles	5361-5	RR-A6			12S	
8-316A		UT	All B-D Nozzles	5361-5	RR-A6	08C			Note 14 Applies to all Category B-D Welds
8-316B		UT	All B-D Nozzles	5361-5	RR-A6	08C			
8-316C		UT	All B-D Nozzles	5361-5	RR-A6			12S	
8-316D		UT	All B-D Nozzles	5361-5	RR-A6			12S	
B-E									
B4.11	**Partial Penetration Vessel Nozzles**								
17-315		VT-2		5361-5		07C, 08C	09C, 10S	11S, 12S	
7-315		VT-2		5361-5		07C, 08C	09C, 10S	11S, 12S	Each Refuel Outage - Note 4 applies to all B-E Items
B4.12	**Partial Penetration CRD Nozzles**								
1-310-X-Y		VT-2		5363-5		07C, 08C	09C, 10S	11S, 12S	25% Nozzles External Surfaces - Note 4

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Category / Item	Identification	Exams Require	Selection Basis	Isometric	Relief Request	Inspection 1	Inspection 2	Inspection 3	Remarks
B-E									
B4.12	**Partial Penetration CRD Nozzles**								
CRDH-Y_-X_		VT-2		5363-5		07C, 08C	09C, 10S	11S, 12S	
B4.13	**Partial Penetration Instrumentation Nozzles**								
2-315A		VT-2		5361-5		07C, 08C	09C, 10S	11S, 12S	
2-315B		VT-2		5361-5		07C, 08C	09C, 10S	11S, 12S	
2-315C		VT-2		5361-5		07C, 08C	09C, 10S	11S, 12S	
2-315D		VT-2		5361-5		07C, 08C	09C, 10S	11S, 12S	
2-315F		VT-2		5361-5		07C, 08C	09C, 10S	11S, 12S	
IIH-X__-Y__ (55)		VT-2		5363-5		07C, 08C	09C, 10S	11S, 12S	
B-F									
B5.10	**Dissimilar Metal RPV Nozzle to Safe End Weld 4" NPS and Larger**								
101-304E		UT	A, RI (IGSCC)	5358-5	RR-A30		10S		Notes 2 & 8 Cat. B
102-304A		UT	A (IGSCC)	5361-5		07C		12S	Notes 2 & 8 Cat. B
2-303G		UT	A, RI (IGSCC)	5356-5	RR-A30		09C		Notes 2 & 8 Cat. B
2-303H		UT	A, RI (IGSCC)	5356-5	RR-A30	07C		12S	Notes 2 & 8 Cat. B
4-303A		UT	A, RI (IGSCC)	5357-5	RR-A30	07C		12S	Notes 2 & 8 Cat. B
N-9		UT	A, RI (IGSCC)	5361-5	RR-A30		09C		Notes 2 & 8 Cat. B
N5A		UT	A, (IGSCC, CC)	3053-5			10SA		Notes 2 & 8 Cat. B
N5B		UT	A, RI (IGSCC, CC)	3052-5	RR-A30	08C			Notes 2 & 8 Cat. B
B5.130	**Dissimilar Metal Piping Butt Weld 4" NPS and Larger**								
SW-E11-2298-6WC		UT	A, RI (IGSCC)	2298-5	RR-A30	08C			Note 1 & 2, Category B
SW-E11-2327-6WC		UT	A (IGSCC)	2327-5				11S	Notes 1 & 2, Category B
SW-E21-3052-4WOX		UT	A, RI (IGSCC)	3052-5	RR-A30	08C			Notes 1 , 2 & 8 Category B (IGSCC)

Category / Item Identification	Exams Require	Selection Basis	Isometric	Relief Request	Inspection Period 1	2	3	Remarks
B-F								
B5.130 Dissimilar Metal Piping Butt Weld 4" NPS and Larger								
SW-E21-3053-4WOX	UT	A (IGSCC)	3053-5			10S		Notes 1 , 2 & 8 Category B (IGSCC)
B5.20 Dissimilar Metal RPV Nozzle to Safe End Weld Less Than 4" NPS								
5-315	PT	A	R1-91		07C			Note 18
5-315	UT	A			07C			Note 18
B-G-1								
B6.10 RPV Closure Head Nuts Greater Than 2"								
326-02, 1 through 68	MT	>2 dia."	5362-5		08CP	09CP	11SP	1/3 Each Period
B6.180 Pump Studs Greater Than 2"								
RRC Pump A, Studs 1 through 16	UT	>2 dia."	5365-5		08C			
RRC Pump B, Studs 1 through 16	UT	>2 dia."	5365-5				11S	
B6.190 Pump Flange Surface, When Disassembled								
RRC Pump A, Flange	VT-1	>2 dia."	5365-5					Perform if disassembled
RRC Pump B, Flange	VT-1	>2 dia."	5365-5					Perform if disassembled
B6.20 RPV Closure Studs Greater Than 2", In-place								
326-01, 1 through 68	UT	>2 dia."	5362-5		08CP	10SP	11SP	1/3 Each Period
B6.200 Pump Nuts, Bushings, and Washers								
RRC Pump A Nuts, Bushings & Washers Set 1 - 16	VT-1	>2 dia."	5365-5		08C			
RRC Pump B Nuts, Bushings & Washers Set 1 - 16	VT-1	>2 dia."	5365-5				11S	
B6.30 RPV Closure Studs Greater Than 2", When Removed								
326-01, 1 through 68	MT	>2 dia."	5362-5		08C			48-51 Removed w/refueling chute
B6.40 RPV, Threads in Flange								
1 through 68	UT	>2 dia."	5362-5		08CP	09CP	11SP	1/3 Each Period
B6.50 RPV Closure Washers and Bushings								
326-03, Washers 1 through 68	VT-1	>2 dia."	5362-5		08CP	09CP	11SP	1/3 Each Period
Bushings 1 through 68	VT-1	>2 dia."	5362-5				12S	Only required when studs are removed (48-51 removed with refueling shute)

Category / Item	Identification	Exams Require	Selection Basis	Isometric	Relief Request	Inspection Period 1	2	3	Remarks
B-G-2									
B7.10	**RPV Bolts, Studs, and Nuts 2" and Less**								
Instrumentation Nozzle		VT-1	< 2 dia."	5361-5				11S	
Spare Flange (0Deg)		VT-1	< 2 dia."	5361-5				11S	
Spare Flange (180Deg)		VT-1	< 2 dia."	5361-5				11S	
B7.50	**Piping Bolts, Studs, and Nuts 2" and Less**								
FBC-E41-2297-01		VT-1	< 2 dia."	2297-5			09C		
FBC-E51-2192-01		VT-1	< 2 dia."	2192-5		08C			
B7.60	**Pump Bolts, Studs, and Nuts 2" and Less**								
RRC Pump A Seal Bolting		VT-1	< 2 dia."	5365-5			10S		
RRC Pump B Seal Bolting		VT-1	< 2 dia."	5365-5				12S	
B7.70	**Valve Bolts, Studs, and Nuts 2" and Less**								
B21-F010A-VBB		VT-1	< 2 dia."	3537-5				12S	
B21-F010B-VBB		VT-1	< 2 dia."	3536-5			09C		
B21-F011A-VBB		VT-1	< 2 dia."	3537-5		08C			
B21-F011B-VBB		VT-1	< 2 dia."	3536-5			09C		
B21-F013A-VBB		VT-1	< 2 dia."	5355-5		07C			
B21-F013B-VBB		VT-1	< 2 dia."	5354-5		08C			
B21-F013C-VBB		VT-1	< 2 dia."	5353-5			10S		
B21-F013D-VBB		VT-1	< 2 dia."	5353-5		07C			
B21-F013E-VBB		VT-1	< 2 dia."	5354-5			10S		
B21-F013F-VBB		VT-1	< 2 dia."	5353-5			10S		
B21-F013G-VBB		VT-1	< 2 dia."	5353-5		08C			
B21-F013H-VBB		VT-1	< 2 dia."	5354-5				12S	
B21-F013J-VBB		VT-1	< 2 dia."	5354-5		07C			
B21-F013K-VBB		VT-1	< 2 dia."	5353-5		08C			
B21-F013L-VBB		VT-1	< 2 dia."	5352-5		08C			
B21-F013M-VBB		VT-1	< 2 dia."	5352-5		07C			
B21-F013N-VBB		VT-1	< 2 dia."	5352-5				11S	
B21-F013P-VBB		VT-1	< 2 dia."	5355-5				12S	

Category / Item Identification	Exams Require	Selection Basis	Isometric	Relief Request	Inspection Period 1	2	3	Remarks
B-G-2								
B7.70 Valve Bolts, Studs, and Nuts 2" and Less								
B21-F013R-VBB	VT-1	< 2 dia."	5354-5				12S	
B21-F022A-VBB	VT-1	< 2 dia."	5352-5				11S	
B21-F022B-VBB	VT-1	< 2 dia."	5353-5				12S	
B21-F022C-VBB	VT-1	< 2 dia."	5354-5			10S		
B21-F022D-VBB	VT-1	< 2 dia."	5355-5				12S	
B21-F028A-VBB	VT-1	< 2 dia."	5352-5			10S		
B21-F028B-VBB	VT-1	< 2 dia."	5353-5		08C			
B21-F028C-VBB	VT-1	< 2 dia."	5354-5				11S	
B21-F028D-VBB	VT-1	< 2 dia."	5355-5		08C			
B21-F032A-VBB	VT-1	< 2 dia."	3537-5			09C		
B21-F032B-VBB	VT-1	< 2 dia."	3536-5				11S	
B21-F076A-VBB	VT-1	< 2 dia."	3537-5				11S	
B21-F076B-VBB	VT-1	< 2 dia."	3536-5				11S	
B31-F023A-VBB	VT-1	< 2 dia."	5357-5			09C		
B31-F023B-VBB	VT-1	< 2 dia."	5359-5				11S	
B31-F031A-VBB	VT-1	< 2 dia."	5357-5			09C		
B31-F031B-VBB	VT-1	< 2 dia."	5359-5				11S	
E11-F008-VBB	VT-1	< 2 dia."	2299-5				12S	
E11-F009-VBB	VT-1	< 2 dia."	2299-5			09C		
E11-F015A-VBB	VT-1	< 2 dia."	2298-5		07C			
E11-F015B-VBB	VT-1	< 2 dia."	2327-5				11S	
E11-F050A-VBB	VT-1	< 2 dia."	2298-5		07C			
E11-F050B-VBB	VT-1	< 2 dia."	2327-5		07C			
E11-F060A-VBB	VT-1	< 2 dia."	2298-5				12S	
E11-F060B-VBB	VT-1	< 2 dia."	2327-5			10S		
E11-F067-VBB	VT-1	< 2 dia."	2299-5			09C		
E11-F608-VBB	VT-1	< 2 dia."	2299-5				11S	
E21-F005A-VBB	VT-1	< 2 dia."	3052-5			09C		

Category / Item Identification	Exams Require	Selection Basis	Isometric	Relief Request	Inspection Period 1	2	3	Remarks
B-G-2								
B7.70 Valve Bolts, Studs, and Nuts 2" and Less								
E21-F005B-VBB	VT-1	< 2 dia."	3053-5			09C		
E21-F006A-VBB	VT-1	< 2 dia."	3052-5		08C			
E21-F006B-VBB	VT-1	< 2 dia."	3053-5		07C			
E21-F007A-VBB	VT-1	< 2 dia."	3052-5				12S	
E21-F007B-VBB	VT-1	< 2 dia."	3053-5				12S	
E41-F002-VBB	VT-1	< 2 dia."	2297-5				11S	
E41-F003-VBB	VT-1	< 2 dia."	2297-5		08C			
E41-F006-VBB	VT-1	< 2 dia."	3537-5			10S		
E51-F007-VBB	VT-1	< 2 dia."	2192-5			09C		
E51-F008-VBB	VT-1	< 2 dia."	2192-5		07C			
E51-F013-VBB	VT-1	< 2 dia."	3536-5				11S	
FBC-B21-5352-01L	VT-1	< 2 dia."	5352-5		08C			
FBC-B21-5352-01M	VT-1	< 2 dia."	5352-5		07C			
FBC-B21-5352-01N	VT-1	< 2 dia."	5352-5				11S	
FBC-B21-5353-01C	VT-1	< 2 dia."	5353-5			10S		
FBC-B21-5353-01D	VT-1	< 2 dia."	5353-5		07C			
FBC-B21-5353-01F	VT-1	< 2 dia."	5353-5			10S		
FBC-B21-5353-01G	VT-1	< 2 dia."	5353-5		08C			
FBC-B21-5353-01K	VT-1	< 2 dia."	5353-5		08C			
FBC-B21-5354-01B	VT-1	< 2 dia."	5354-5		08C			
FBC-B21-5354-01E	VT-1	< 2 dia."	5354-5			10S		
FBC-B21-5354-01H	VT-1	< 2 dia."	5354-5				12S	
FBC-B21-5354-01J	VT-1	< 2 dia."	5354-5		07C			
FBC-B21-5354-01R	VT-1	< 2 dia."	5354-5				12S	
FBC-B21-5355-01A	VT-1	< 2 dia."	5355-5		07C			
FBC-B21-5355-01P	VT-1	< 2 dia."	5355-5				12S	
G33-F001-VBB	VT-1	< 2 dia."	3096-5		08C			
G33-F004-VBB	VT-1	< 2 dia."	3096-5			09C		

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Category / Item Identification	Exams Require	Selection Basis	Isometric	Relief Request	Inspection Period 1	2	3	Remarks
B-G-2								
B7.70 Valve Bolts, Studs, and Nuts 2" and Less								
G33-F100-VBB	VT-1	< 2 dia."	5351-5			10S		
G33-F101-VBB	VT-1	< 2 dia."	3096-5				12S	
G33-F102-VBB	VT-1	< 2 dia."	5351-5				12S	
G33-F106-VBB	VT-1	< 2 dia."	5351-5				11S	
G33-F120-VBB	VT-1	< 2 dia."	3536-5		08C			
G33-F121-VBB	VT-1	< 2 dia."	3536-5		07C			
G33-F220-VBB	VT-1	< 2 dia."	3536-5			10S		
B7.80 CRD Bolts, Studs, and Nuts 2" and Less								
185 sets of Bolts, Studs and Nuts	Visual VT-1	< 2 dia."			08CP	09CP		When Disassembled (24 sets, 08), (23 sets, 09)
B-H								
B8.10 RPV Integral Attachment Weld								
10-324A	MT	B-H Weld	5360-5		08C			Code Case N-509
3-306/4-309	UT	B-H Weld	5360-5		08CP			10% of Weld length
3-306/4-309	MT	B-H Weld	5360-5		08CP			10% of Weld length
8-319A	MT	B-H Weld	5360-5				12S	Supplemental exam for weld 1-391A, RR-A1
8-319B	MT	B-H Weld	5360-5				12S	Supplemental exam for weld 1-391C, RR-A1
8-319C	MT	B-H Weld	5360-5			10S		Supplemental exam for weld 1-391E, RR-A1
8-319D	MT	B-H Weld	5360-5				12S	Supplemental exam for weld 1-391G, RR-A1
B-J								
B9.11 Circumferential Piping Weld 4" NPS or Larger								
3-316A	UT	RI (TASCS, CC)	3537-5	RR-A30	08C			
3-316D	UT	RI (TASCS, CC)	3536-5	RR-A30			12S	
3-316E	UT	RI (TASCS, CC)	3536-5	RR-A30			11S	
7-316A	UT	RI	5352-5	RR-A30	08C			
FW-E11-2298-6W0	UT	A, (IGSCC)	2298-5		08C			Note 2, Category B
FW-E11-2299-2WF3	UT	RI	2299-5	RR-A30		09C		

Category / Item Identification	Exams Require	Selection Basis	Isometric	Relief Request	Inspection Period 1	2	3	Remarks
B-J								
B9.11 Circumferential Piping Weld 4" NPS or Larger								
FW-E11-2327-0W1	UT	RI	2327-5	RR-A30	08C			
FW-E11-2327-0W6	UT	RI	2327-5	RR-A30			11S	
FW-E11-2327-6W0	PT	A (IGSCC)	2327-5				11S	Note 2 Category B
FW-E21-3052-4WF1	UT	RI	3052-5	RR-A30			12S	
FW-E41-2297-0W4	MT	RI	2297-5	RR-A30	08C			
FW-E41-2297-2W3	UT	RI	2297-5	RR-A30	08C			
FW-E51-2192-1W2	UT	RI	2192-5	RR-A30		09C		
FW-E51-2192-2W3	UT	RI	2192-5	RR-A30		09C		
FW-G33-3096-10WF3	UT	A, RI (IGSCC)	5351-5	RR-A30	08C			
FW-G33-3096-6WF5	UT	RI	3096-5	RR-A30			11S	
FW-G33-3096-8W11	UT	RI	5351-5	RR-A30		10S		
FW-G33-3096-8W9	UT	RI	5351-5	RR-A30		10S		
FW-G33-3096-9WF1	UT	RI	5351-5	RR-A30		10S		
FW-N21-2336-13W14	UT	RI	3537-5	RR-A30		10S		
FW-N21-2336-14WF1	UT	RI	3537-5	RR-A30		10S		
FW-N21-2336-15W0	UT	RI (TASCS)	3537-5	RR-A30	08C			
FW-N21-2336-16W19	UT	RI	3537-5	RR-A30			11S	
FW-N21-2336-3W4	UT	RI	3536-5	RR-A30		09C		RCIC Selection
FW-PS-2-A6	UT	RI	5352-5	RR-A30			12S	
FW-PS-2-C3	UT	RI	5354-5	RR-A30		10S		
FW-RD-2-A1-W1	UT	RI, A (IGSCC)	5357-5	RR-A30			12S	Note No. 2, Cat. B
FW-RD-2-A11	UT	RI, A (IGSCC)	5356-5	RR-A30			11S	Note 2, Category B (CRC)
FW-RD-2-A16	UT	RI, A (IGSCC)	5356-5	RR-A30		09C		Note 2, Category B (CRC)
FW-RD-2-A17	UT	A (IGSCC)	5356-5				12S	Note 2, Category B(CRC)
FW-RD-2-A9	UT	A (IGSCC)	5357-5		08CA			Note 2, Category B
FW-RD-2-B1-W1	UT	RI, A(IGSCC)	5359-5	RR-A30			11S	Note 2, Category B UFSAR 5.2.3.2
FW-RD-2-B19	UT	A, (IGSCC)	5358-5			10SA		Note 2, Category B (CRC)
FW-RS-2-A1	UT	A (IGSCC)	5357-5				12SA	Note No. 2, Cat. B

Category / Item Identification	Exams Require	Selection Basis	Isometric	Relief Request	Inspection Period 1	2	3	Remarks
B-J								
B9.11 Circumferential Piping Weld 4" NPS or Larger								
N4A	UT	RI (TASCS, CC)	3537-5	RR-A30	08C			
N4D	UT	RI (TASCS,CC)	3536-5	RR-A30			12S	
N4E	UT	RI (TASCS, CC)	3536-5	RR-A30			11S	
SW-E21-3053-3WN	UT	RI	3053-5	RR-A30		09C		
SW-E21-3053-3WP	UT	RI	3053-5	RR-A30		09C		
SW-G33-3096-5WD	UT	RI	3096-5	RR-A30			11S	
SW-G33-3096-5WH	UT	RI	3096-5	RR-A30			11S	
SW-N21-2335-1WD	UT	RI	3536-5	RR-A30		09C		RCIC Selection
SW-N21-2336-13WC	UT	RI	3537-5	RR-A30		10S		
SW-N21-2336-13WE	UT	RI	3537-5	RR-A30		10S		
SW-N21-2336-15WP	UT	RI (TASCS)	3537-5	RR-A30	08C			
SW-N21-2336-1WL	UT	RI (TASCS)	3536-5	RR-A30		09C		
SW-N21-2336-1WU	UT	RI	3536-5	RR-A30		09C		RCIC Selection
SW-N21-2336-3WC	UT	RI	3536-5	RR-A30		09C		RCIC Selection
SW-PS-2-A1-A	UT	RI	5352-5	RR-A30	08C			
SW-PS-2-A1-B	UT	RI	5352-5	RR-A30	08C			
SW-PS-2-A4-B	UT	RI	5352-5	RR-A30			12S	
SW-PS-2-C3-A	UT	RI	5354-5	RR-A30		10S		
SW-PS-2-C3-C	UT	RI	5354-5	RR-A30		10S		
SW-PS-2-C3-D	UT	RI	5354-5	RR-A30		10S		
SW-PS-2-C3-J	UT	RI	5354-5	RR-A30	08C			
SW-PS-2-C3-K	UT	RI	5354-5	RR-A30	08C			
SW-RD-2-A3-W7	UT	RI, A (IGSCC)	5356-5	RR-A30			11S	Note 2, Category B
SW-RD-2-A4-W2	UT	RI	5356-5	RR-A30			11S	Note 2, Category A
SW-RD-2-B4-W2	UT	RI, A	5358-5	RR-A30			12S	Note 2, Category A
SW-RD-2-B8-W1	UT	RI, A	5358-5	RR-A30	08C			Note 2, Category A
SW-RD-2-B8-W2	UT	RI, A	5358-5	RR-A30	08C			Note 2, Category A
SW-RS-2-A2-W1	UT	A (IGSCC)	5357-5			09C		Note No. 2, Cat. B

Category / Item Identification	Exams Require	Selection Basis	Isometric	Relief Request	Inspection Period 1	2	3	Remarks
B-J								
B9.11 Circumferential Piping Weld 4" NPS or Larger								
SW-RS-2-B1-W1	UT	RI, A (IGSCC)	5359-5	RR-A30			11S	Note 2, Category B
SW-RS-2A1-W1	UT	RI, A (IGSCC)	5357-5	RR-A30			12S	Note No. 2, Cat. B
B-K-1								
B10.10 Piping Integral Attachment Weld								
SW-N21-2336-20WB	MT	> 5/8 T"	3537-5			10S		ISI Eval. 99-055; Code Case N-509
SW-N21-2336-20WC	MT	> 5/8 T"	3537-5			10S		ISI Eval. 99-055; Code Case N-509
SW-N21-2336-20WD	MT	> 5/8 T"	3537-5			10S		ISI Eval. 99-055; Code Case N-509
SW-N21-2336-20WE	MT	> 5/8 T"	3537-5			10S		ISI Eval. 99-055; Code Case N-509
SW-PS-2-A2-AA1	MT	> 5/8 T"	5352-5		07C			ISI Eval. 99-055; Code Case N-509
SW-PS-2-A2-AA2	MT	> 5/8 T"	5352-5		07C			ISI Eval. 99-055; Code Case N-509
SW-PS-2-A2-AA3	MT	> 5/8 T"	5352-5		07C			ISI Eval. 99-055; Code Case N-509
SW-PS-2-A2-AA4	MT	> 5/8 T"	5352-5		07C			ISI Eval. 99-055; Code Case N-509
B10.20 Pump Integral Attachment Weld								
SW-B31-5365-Pump A-WA	PT	> 5/8 T"	5365-5				12S	ISI Eval. 99-055; Code Case N-509
B-L-2								
B12.20 Pump Casing								
RRC Pump A	VT-3	Visual VT-3	5365-5					Only if Disassembled, Note 10
RRC Pump B	VT-3	Visual VT-3	5365-5					Only if Disassembled, Note 10
B-M-2								
B12.50 Valve Body								
B21F010A	VT-3	>4 NPS"	3537-5		08C	09C		Only if Disassembled
B21F010B	VT-3	>4 NPS"	3536-5		07C	09C		Only if Disassembled
B21F011A	VT-3	>4 NPS"	3537-5					Only if Disassembled
B21F011B	VT-3	>4 NPS"	3536-5					Only if Disassembled
B21F013A	VT-3	>4 NPS"	5355-5					Only if Disassembled
B21F013B	VT-3	>4 NPS"	5354-5					Only if Disassembled
B21F013C	VT-3	>4 NPS"	5353-5		08C			Only if Disassembled

Category / Item	Identification	Exams Require	Selection Basis	Isometric	Relief Request	Inspection Period 1	2	3	Remarks
B-M-2									
B12.50	**Valve Body**								
B21F013D		VT-3	>4 NPS"	5353-5					Only if Disassembled
B21F013E		VT-3	>4 NPS"	5354-5					Only if Disassembled
B21F013F		VT-3	>4 NPS"	5353-5		08C			Only if Disassembled
B21F013G		VT-3	>4 NPS"	5353-5					Only if Disassembled
B21F013H		VT-3	>4 NPS"	5354-5					Only if Disassembled
B21F013J		VT-3	>4 NPS"	5354-5					Only if Disassembled
B21F013K		VT-3	>4 NPS"	5353-5		08C			Only if Disassembled
B21F013L		VT-3	>4 NPS"	5352-5					Only if Disassembled
B21F013M		VT-3	>4 NPS"	5352-5					Only if Disassembled
B21F013N		VT-3	>4 NPS"	5352-5		08C			Only if Disassembled
B21F013P		VT-3	>4 NPS"	5355-5					Only if Disassembled
B21F013R		VT-3	>4 NPS"	5354-5					Only if Disassembled
B21F022A		VT-3	>4 NPS"	5352-5					Only if Disassembled
B21F022B		VT-3	>4 NPS"	5353-5					Only if Disassembled
B21F022C		VT-3	>4 NPS"	5354-5					Only if Disassembled
B21F022D		VT-3	>4 NPS"	5355-5		07C			Only if Disassembled
B21F028A		VT-3	>4 NPS"	5352-5					Only if Disassembled
B21F028B		VT-3	>4 NPS"	5353-5		07C			Only if Disassembled
B21F028C		VT-3	>4 NPS"	5354-5		07C			Only if Disassembled
B21F028D		VT-3	>4 NPS"	5355-5					Only if Disassembled
B21F032A		VT-3	>4 NPS"	3537-5		07C			Only if Disassembled
B21F032B		VT-3	>4 NPS"	3536-5		07C			Only if Disassembled
B21F076A		VT-3	>4 NPS"	3537-5		07C			Only if Disassembled
B21F076B		VT-3	>4 NPS"	3536-5		07C	09C		Only if Disassembled
B31F023A		VT-3	>4 NPS"	5357-5					Only if Disassembled
B31F023B		VT-3	>4 NPS"	5359-5					Only if Disassembled
B31F031A		VT-3	>4 NPS"	5357-5					Only if Disassembled
B31F031B		VT-3	>4 NPS"	5359-5					Only if Disassembled

Category / Item	Identification	Exams Require	Selection Basis	Isometric	Relief Request	Inspection Period 1	2	3	Remarks
B-M-2									
B12.50	**Valve Body**								
E11F008		VT-3	>4 NPS"	2299-5					Only if Disassembled
E11F009		VT-3	>4 NPS"	2299-5					Only if Disassembled
E11F015A		VT-3	>4 NPS"	2298-5		07C			Only if Disassembled
E11F015B		VT-3	>4 NPS"	2327-5					Only if Disassembled
E11F050A		VT-3	>4 NPS"	2298-5		07C	09C		Only if Disassembled
E11F050B		VT-3	>4 NPS"	2327-5		07C	09C		Only if Disassembled
E11F060A		VT-3	>4 NPS"	2298-5					Only if Disassembled
E11F060B		VT-3	>4 NPS"	2327-5					Only if Disassembled
E11F067		VT-3	>4 NPS"	2299-5					Only if Disassembled
E11F608		VT-3	>4 NPS"	2299-5					Only if Disassembled
E21F005A		VT-3	>4 NPS"	3052-5					Only if Disassembled
E21F005B		VT-3	>4 NPS"	3053-5					Only if Disassembled
E21F006A		VT-3	>4 NPS"	3052-5		08C			Only if Disassembled
E21F006B		VT-3	>4 NPS"	3053-5		07C	09C		Only if Disassembled
E21F007A		VT-3	>4 NPS"	3052-5					Only if Disassembled
E21F007B		VT-3	>4 NPS"	3053-5					Only if Disassembled
E41F002		VT-3	>4 NPS"	2297-5					Only if Disassembled
E41F003		VT-3	>4 NPS"	2297-5					Only if Disassembled
E41F006		VT-3	>4 NPS"	5352-5					Only if Disassembled
E51F013		VT-3	>4 NPS"	3536-5					Only if Disassembled
G33F001		VT-3	>4 NPS"	3096-5					Only if Disassembled
G33F004		VT-3	>4 NPS"	3096-5					Only if Disassembled
G33F100		VT-3	>4 NPS"	5351-5					Only if Disassembled
G33F102		VT-3	>4 NPS"	5351-5					Only if Disassembled
G33F106		VT-3	>4 NPS"	5351-5					Only if Disassembled
B-N-1									
B13.10	**Reactor Vessel Interior - Vessel Internals are examined using remote visual techniques. Exams listed are code required exams. More detailed techniques are utilized as per BWRVIP I&E Guidelines (Note 22).**								

Category / Item Identification	Exams Require	Selection Basis	Isometric	Relief Request	Inspection Period 1	2	3	Remarks
B-N-1								
B13.10 Reactor Vessel Interior - Vessel Internals are examined using remote visual techniques. Exams listed are code required exams. More detailed techniques are utilized as per BWRVIP I&E Guidelines (Note 22).								
Access Hole Cover	VT-1	Vessel Interior, A				09C		Note No. 13
CDP and SLC Line	VT-3	Vessel Interior						Only if Accessible
Control Rod Drive Housings	VT-3	Vessel Interior						Only if Accessible
Core Shroud	VT-1	Vessel Interior, A			07CP/ 08CP			Note No. 19
Core Shroud	VT-3	Vessel Interior			07CP/ 08CP			Note No. 19
Core Shroud Welds	UT	Vessel Interior, A					12S	Note No. 19
Core Spray Sparger and Interior Piping	VT-3 / VT-1	Vessel Interior, A			07C/0 8CP	09CP		Note No. 12
Feedwater Sparger	VT-3	Vessel Interior			07CP/ 08CP	09CP		NUREG 0619 at least once every 4 Cycles
Flux Monitor Housings	VT-3	Vessel Interior						Only if Accessible
Guide Rod Holders / Brackets	VT-3	Vessel Interior			07CP/ 08CP		12SP	
Instrumentation Lines	VT-3	Vessel Interior, A			07CP/ 08CP	09CP		Note No. 7
Jet Pump Components	VT-3 / UT	Vessel Interior, A			07CP/ 08CP	09CP		Note No. 17
Jet Pump Hold Down Beams	VT-3	Vessel Interior			07CP/ 08CP	09CP		
Jet Pump Hold Down Beams	UT	Vessel Interior, A				09C		Note No. 3
Recirculation Inlet Nozzle	VT-3	Vessel Interior			08CP	09CP	10SP	
Sample Holders	VT-3	Vessel Interior			08CP	10SP	12SP	
Shroud Head	VT-3	Vessel Interior			07CP/ 08CP	09CP		
Shroud Head Bolts	UT	A						Note No. 9
Shroud Head Bolts	VT-3	Vessel Interior			07CP/ 08CP	09CP		

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Category / Item Identification	Exams Require	Selection Basis	Isometric	Relief Request	Inspection Period 1	2	3	Remarks
B-N-1								
B13.10 **Reactor Vessel Interior - Vessel Internals are examined using remote visual techniques. Exams listed are code required exams. More detailed techniques are utilized as per BWRVIP I&E Guidelines (Note 22).**								
Steam Dryer Assembly / Hold Downs	VT-3	Vessel Interior			07CP/ 08CP	09CP		Note No. 11
Steam Separator Assy.	VT-3	Vessel Interior			07CP/ 08CP	09CP		
Top Guide	VT-3	Vessel Interior			07CP/ 08CP	09CP		Note No. 16
B-N-2								
B13.20 **RPV Interior Welded Attachments Within Beltline Region - Vessel Internals are examined using remote visual techniques. Exams listed are code required exams. More detailed techniques are utilized as per BWRVIP I&E Guidelines (Note 22).**								
Jet Pump Riser Brace Arms	VT-1	Vessel Interior, A			07CP/ 08CP	09CP		
Surveillance Specimen Bracket	VT-1	Attachment Weld			07CP/ 08CP	10SP		
B13.30 **RPV Interior Welded Attachments Beyond Beltline Region - Vessel Internals are examined using remote visual techniques. Exams listed are code required exams. More detailed techniques are utilized as per BWRVIP I&E Guidelines (Note 22).**								
Core Spray Piping Brackets	VT-3	Interior Attachment Beyond Beltline			07CP/ 08CP	09C		
Feedwater Sparger Brackets	VT-3	Interior Attachment Beyond Beltline			07CP/ 08CP			
Shroud Support Welds	VT-3 / UT	Interior Attachment Beyond Beltline				09CP	11S	Note No. 19
Steam Dryer Support Lugs	VT-3	Interior Attachment Beyond Beltline			07CP/ 08CP			
B13.40 **Welded Core Support Structure - Vessel Internals are examined using remote visual techniques. Exams listed are code required exams. More detailed techniques are utilized as per BWRVIP I&E Guidelines (Note 22).**								
Core Support Assy. & Bolts	VT-3 / UT	A			07CP/ 08CP			BWRVIP-25
Lower Core Shroud	VT-3	Core Support, A			07CP	09CP		Note No. 19
Peripheral Fuel Support	VT-3	A			07CP/ 08CP	09CP		

Category / Item Identification	Exams Require	Selection Basis	Isometric	Relief Request	Inspection Period 1	2	3	Remarks
B-O								
B14.10 Welds in CRD Housing								
CRDH-X02-Y27-W1	PT	10% Peripheral Housing Welds	5363-5		08C			
CRDH-X02-Y27-W2	PT	10% Peripheral Housing Welds	5363-5		08C			
CRDH-X02-Y31-W1	PT	10% Peripheral Housing Welds	5363-5			10S		
CRDH-X02-Y31-W2	PT	10% Peripheral Housing Welds	5363-5			10S		
CRDH-X02-Y35-W1	PT	10% Peripheral Housing Welds	5363-5				11S	
CRDH-X02-Y35-W2	PT	10% Peripheral Housing Welds	5363-5				11S	
CRDH-X02-Y39-W1	PT	10% Peripheral Housing Welds	5363-5				12S	
CRDH-X02-Y39-W2	PT	10% Peripheral Housing Welds	5363-5				12S	
B-P								
B15.X Class 1 Pressure Retaining Boundary								
B21, B31, C41, E11, E21, E41, E51, G33, N21, P34	VT-2	Class1 Pressure Retaining Boundary			07C, 08C	09C, 10S	11S	X Includes items - B15.10, B15.50, B15.60 and B15.70. Each Refueling Outage; Note 15
B21, B31, C41, E11, E21, E41, E51, G33, N21, P34	VT-2	Class1 Pressure Retaining Boundary					12S	X Includes items - B15.11, B15.51, B15.61 and B15.71. Each Interval, Code Case N-498-1
C-A								
C1.10 Shell Circumferential Weld								
SW-E11-D2-HX-11	UT	Gross Structural Discontinuity	5370-5		08C			
C1.20 Head Circumferential Weld								
SW-E11-D2-HX-05	UT	Gross Structural Discontinuity	5370-5				11S	

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Category / Item Identification	Exams Require	Selection Basis	Isometric	Relief Request	Inspection Period 1	2	3	Remarks
C-B								
C2.21 Nozzle to Shell (or Head) Weld								
SW-E11-D2-HX-01	MT	Shell - T >.5"	5370-5		08C			
SW-E11-D2-HX-01	UT	Shell - T >.5"	5370-5		08C			
SW-E11-D2-HX-10	UT	Shell - T >.5"	5370-5				11S	
SW-E11-D2-HX-10	MT	Shell - T >.5"	5370-5				11S	
C2.22 Nozzle Inside Radius Section								
SW-E11-D2-HX-01 IRS	UT	Selected Nozzle			08C			
SW-E11-D2-HX-10 IRS	UT	Selected Nozzle					11S	
C-C								
C3.10 Intregally Welded Attachment (Vessel)								
SW-E11-D2-HXS-05	MT	10%	5370-5		08C			Code Case N-509
SW-E11-D2-HXS-06	MT	10%	5370-5		08C			Code Case N-509
SW-E11-D2-HXS-07	MT	10%	5370-5		08C			Code Case N-509
SW-E11-D2-HXS-09	MT	10%	5370-5		08C			Code Case N-509
SW-E11-D2-HXS-10	MT	10%	5370-5		08C			Code Case N-509
SW-E11-D2-HXS-11	MT	10%	5370-5		08C			Code Case N-509
SW-E11-D2-HXS-12	MT	10%	5370-5		08C			Code Case N-509
SW-E11-D2-HXS-13	MT	10%	5370-5			09C		Code Case N-509
SW-E11-D2-HXS-14	MT	10%	5370-5			09C		Code Case N-509
SW-E11-D2-HXS-15	MT	10%	5370-5			09C		Code Case N-509
SW-E11-D2-HXS-16	MT	10%	5370-5			09C		Code Case N-509
SW-E11-D2-HXS-17	MT	10%	5370-5				11S	Code Case N-509
SW-E11-D2-HXS-18	MT	10%	5370-5				11S	Code Case N-509
SW-E11-D2-HXS-19	MT	10%	5370-5				11S	Code Case N-509
SW-E11-D2-HXS-20	MT	10%	5370-5				11S	Code Case N-509
SW-E11-D2-HXS-21	MT	10%	5370-5				11S	Code Case N-509
SW-E11-D2-HXS-22	MT	10%	5370-5				11S	Code Case N-509
SW-E11-D2-HXS-23	MT	10%	5370-5				11S	Code Case N-509
SW-E11-D2-HXS-24	MT	10%	5370-5				11S	Code Case N-509

Category / Item Identification	Exams Require	Selection Basis	Isometric	Relief Request	Inspection Period 1	2	3	Remarks
C-C								
C3.20 Intregally Welded Attachment (Piping)								
C11-50-2113-G262A	MT	10%	5375-5				11S	Code Case N-509
C11-50-2113-G262B	MT	10%	5375-5				11S	Code Case N-509
C11-50-2113-G262C	MT	10%	5375-5				11S	Code Case N-509
C11-50-2113-G262D	MT	10%	5375-5				11S	Code Case N-509
C11-50-2113-G262E	MT	10%	5375-5				11S	Code Case N-509
C11-50-2113-G262F	MT	10%	5375-5				11S	Code Case N-509
C11-50-2113-G262G	MT	10%	5375-5				11S	Code Case N-509
C11-50-2113-G262H	MT	10%	5375-5				11S	Code Case N-509
PSFW-E21-3147-301	MT	10%	3147-5		07C			Code Case N-509
PSFW-E41-3167-IWE	MT	10%	3167-5			10S		Code Case N-509
PSFW-E41-3167-IWF	MT	10%	3167-5			10S		Code Case N-509
PSFW-E41-3167-IWG	MT	10%	3167-5			10S		Code Case N-509
PSFW-E41-3167-IWH	MT	10%	3167-5			10S		Code Case N-509
SW-E11-3151-4WE	MT	10%	3151-5				12S	Code Case N-509
SW-E11-3151-4WF	MT	10%	3151-5				12S	Code Case N-509
SW-E11-3151-4WG	MT	10%	3151-5				12S	Code Case N-509
SW-E11-3151-4WH	MT	10%	3151-5				12S	Code Case N-509
SW-E11-3151-4WJ	MT	10%	3151-5				12S	Code Case N-509
SW-E11-3151-4WK	MT	10%	3151-5				12S	Code Case N-509
C-F-1								
Augmente NRC Commitment								
FW-C41-2979-11S12	PT	A	2979-5			10S		EF2-53.873
FW-C41-2979-17S18	PT	A	2979-5				12S	EF2-53.873
FW-C41-2979-1S2	PT	A	2979-5		08C			EF2-53.873
FW-C41-2979-2S3	PT	A	2979-5		08C			EF2-53.873
FW-C41-2979-50S51	PT	A	2979-5				11S	EF2-53.873
FW-C41-2979-63S64	PT	A	2979-5			09C		EF2-53.873
FW-C41-2979-64S65	PT	A	2979-5			09C		EF2-53.873

Category / Item Identification	Exams Require	Selection Basis	Isometric	Relief Request	Inspection Period 1	2	3	Remarks
C-F-1								
Augmente NRC Commitment								
FW-C41-2979-72S73	PT	A	2979-5		08C			EF2-53.873
FW-C41-2979-81S82	PT	A	2979-5				12S	EF2-53.873
FW-C41-2979-L	PT	A	2979-5			10S		EF2-53.873
FW-C41-2979-P	PT	A	2979-5		07C			EF2-53.873
FW-C41-3361-02W1	PT	A	3361-5		07C			EF2-53.873
FW-C41-3361-1WF22	PT	A	3361-5				12S	EF2-53.873
FW-C41-3361-1WF25	PT	A	3361-5				11S	EF2-53.873
FW-C41-5058-54S55	PT	A	5374-5			09C		EF2-53.873
FW-C41-5058-65S66	PT	A	5374-5				11S	EF2-53.873
C-F-2								
C5.51 Circumferential Weld								
FW-C11-2113-249-B	MT	R	5372-5				12S	
FW-C11-2113-249-B	UT	R	5372-5				12S	
FW-E11-3146-5WO	UT	MS	3146-5		08C			
FW-E11-3146-5WO	MT	MS	3146-5		08C			
FW-E11-3146-6W10	MT	MS	3146-5		07C			
FW-E11-3146-6W10	UT	MS	3146-5		07C			
FW-E11-3146-OW1	MT	TE	3146-5				11S	
FW-E11-3146-OW1	UT	TE	3146-5				11S	
FW-E11-3151-10W0	MT	TE	3151-5				11S	
FW-E11-3151-10W0	UT	TE	3151-5				11S	
FW-E11-3151-3WF2	UT	MS	3151-5			09C		
FW-E11-3151-3WF2	MT	MS	3151-5			09C		
FW-E11-3151-7W11	MT	MS	3151-5			10S		
FW-E11-3151-7W11	UT	MS	3151-5			10S		
FW-E11-3154-13WO	UT	TE	3154-5			09C		
FW-E11-3154-13WO	MT	TE	3154-5			09C		
FW-E11-3154-4WO	UT	TE	3154-5				12S	

Category / Item Identification	Exams Require	Selection Basis	Isometric	Relief Request	Inspection Period 1	2	3	Remarks
C-F-2								
C5.51 Circumferential Weld								
FW-E11-3154-4WO	MT	TE	3154-5				12S	
FW-E11-3157-OW6	MT	TE	3157-5		07C			
FW-E11-3157-OW6	UT	TE	3157-5		07C			
FW-E11-3158-10WF4	UT	TE	3158-5		07C			
FW-E11-3158-10WF4	MT	TE	3158-5		07C			
FW-E11-3158-1W2	UT	R	3158-5			09C		
FW-E11-3158-1W2	MT	R	3158-5			09C		
FW-E11-3158-9WF2	MT	R	3158-5			09C		
FW-E11-3158-9WF2	UT	R	3158-5			09C		
FW-E11-3159-OW1	UT	HS	3159-5		08C			
FW-E11-3159-OW1	MT	HS	3159-5		08C			
FW-E11-3160-OW2	VT-1	R	3160-5	RR-A26			11S	Note 21
FW-E11-3161-4WF5	VT-1	R	3161-5	RR-A26			12S	Note 21
FW-E11-3164-4W5	UT	R	3164-5				12S	
FW-E11-3164-4W5	MT	R	3164-5				12S	
FW-E11-4611-1W2	VT-1	R	4611-5	RR-A26			12S	Note 21
FW-E11-4611-1WF2	VT-1	R	4611-5	RR-A26			12S	Note 21
FW-E11-4612-3WF4	VT-1	R	4612-5	RR-A26			12S	Note 21
FW-E11-4612-4W5	VT-1	R	4612-5	RR-A26		10S		Note 21
FW-E11-4612-4WF1	VT-1	R	4612-5	RR-A26			12S	Note 21
FW-E11-4612-7W8	VT-1	R	4612-5	RR-A26		10S		Note 21
FW-E11-4612-8WF3	VT-1	R	4612-5	RR-A26		10S		Note 21
FW-E11-4612-9WO	VT-1	R	4612-5	RR-A26			11S	Note 21
FW-E21-3144-0W4	MT	TE	3144-5			10S		
FW-E21-3144-0W4	UT	TE	3144-5			10S		
FW-E21-3144-OW1	MT	TE	3144-5		07C			
FW-E21-3145-11WO	MT	R	3145-5			10S		
FW-E21-3147-16W17	UT	R	3147-5		07C			

Category / Item Identification	Exams Require	Selection Basis	Isometric	Relief Request	Inspection Period 1	2	3	Remarks
C-F-2								
C5.51 Circumferential Weld								
FW-E21-3147-16W17	MT	R	3147-5		07C			
FW-E21-3148-0W8	MT	TE	3148-5				12S	
FW-E21-3148-0W8	UT	TE	3148-5				12S	
FW-E21-3148-7W0	MT	TE	3148-5			09C		
FW-E21-3148-7W0	UT	TE	3148-5			09C		
FW-E41-3162-11WF1	VT-1	R	3162-5	RR-A26		09C		Note 21
FW-E41-3162-11WF4	VT-1	R	3162-5	RR-A26		09C		Note 21
FW-E41-3162-11WF5	VT-1	R	3162-5	RR-A26		09C		Note 21
FW-E41-3162-11WO	VT-1	R	3162-5	RR-A26	08C			Note 21
FW-E41-3162-1W2	UT	R	3162-5			10S		
FW-E41-3162-1W2	MT	R	3162-5			10S		
FW-E41-3162-9WF0	UT	TE	3162-5				12S	
FW-E41-3162-9WF0	MT	TE	3162-5				12S	
FW-E41-3163-7W0	MT	TE	3163-5		07C			
FW-E41-3163-7W0	UT	TE	3163-5		07C			
FW-E41-3163-8W0	UT	TE	3163-5				11S	
FW-E41-3163-8W0	MT	TE	3163-5				11S	
FW-E41-3167-1W2	MT	R	3167-5				12S	
FW-E41-3167-1W2	UT	R	3167-5				12S	
FW-E41-3167-9WO	MT	TE	3167-5				11S	
FW-E41-3167-9WO	UT	TE	3167-5				11S	
FW-E41-3167-OW1	MT	TE	3167-5			09C		
FW-E41-3167-OW1	UT	TE	3167-5			09C		
FW-E41-3169-2W0	UT	R	3169-5			09C		
FW-E41-3169-2W0	MT	R	3167-5			09C		
FW-E41-3172-0W1	UT	TE	3172-5			10S		
FW-E41-3172-0W1	MT	TE	3172-5			10S		
FW-E41-3172-0W8	UT	R	3172-5				12S	

Category / Item Identification	Exams Require	Selection Basis	Isometric	Relief Request	Inspection Period 1	2	3	Remarks
C-F-2								
C5.51 Circumferential Weld								
FW-E41-3172-0W8	MT	R	3172-5				12S	
FW-G41-3669-0W9	MT	MS	3669-5				12S	
FW-N30-3259-4WO	MT	TE	3259-5		08C			
FW-N30-3259-4WO	UT	TE	3259-5		08C			
FW-T48-04-2095-11W12	MT	R	2095-5		07C			
FW-T48-04-2095-19WO	MT	MS	2095-5	RR-A26	08C			Note 21
FW-T48-04-2095-7W8	MT	R	2095-5			10S		
FW-T48-04-2097-20W21	MT	MS	2097-5	RR-A26	07C			Note 21
FW-T48-04-2097-8W9	MT	R	2097-5		07C			
SW-C11-2113-172-A	UT	R	5375-5			09C		
SW-C11-2113-172-A	MT	R	5375-5			09C		
SW-C11-2113-303-A	UT	R	5372-5				11S	
SW-C11-2113-303-A	MT	R	5372-5				11S	
SW-E11-3035-5WE	MT	R	3035-5		07C			
SW-E11-3035-7WB	MT	R	3035-5			09C		
SW-E11-3146-6WE	UT	HS	3146-5			10S		
SW-E11-3146-6WE	MT	HS	3146-5			10S		
SW-E11-3146-6WH	UT	HS	3146-5		07C			
SW-E11-3146-6WH	MT	HS	3146-5		07C			
SW-E11-3153-13WD	UT	R	3153-5		08C			
SW-E11-3153-13WD	MT	R	3153-5		08C			
SW-E11-3154-4WC	MT	R	3154-5			09C		
SW-E11-3154-4WC	UT	R	3154-5			09C		
SW-E11-3157-1WB	UT	R	3157-5				12S	
SW-E11-3157-1WB	MT	R	3157-5				12S	
SW-E11-3158-4WD	MT	R	3158-5				11S	
SW-E11-3158-4WD	UT	R	3158-5				11S	
SW-E11-3158-8WG	UT	R	3158-5				11S	

Category / Item Identification	Exams Require	Selection Basis	Isometric	Relief Request	Inspection Period 1	2	3	Remarks
C-F-2								
C5.51 Circumferential Weld								
SW-E11-3158-8WG	MT	R	3158-5				11S	
SW-E11-3161-1WH	MT	R	3161-5				12S	
SW-E11-3161-4WB	VT-1	R	3161-5	RR-A26		10S		Note 21
SW-E11-3161-4WK	VT-1	R	3161-5	RR-A26			12S	Note 21
SW-E11-3177-6WD	MT	R	3177-5				11S	
SW-E11-3177-6WD	UT	R	3177-5				11S	
SW-E11-3177-9WE	MT	R	3177-5			09C		
SW-E11-3177-9WE	UT	R	3177-5			09C		
SW-E21-3145-9WD	VT-1	R	3145-5	RR-A26	08C			Note 21
SW-E21-3147-15WF	UT	R	3147-5				11S	
SW-E21-3147-15WF	MT	R	3147-5				11S	
SW-E21-3147-15WG	MT	R	3147-5			10S		
SW-E21-3147-15WG	UT	R	3147-5			10S		
SW-E21-3147-19WB	UT	R	3147-5		08C			
SW-E21-3147-19WB	MT	R	3147-5		08C			
SW-E21-3147-5WJ	UT	R	3147-5		08C			
SW-E21-3147-5WJ	MT	R	3147-5		08C			
SW-E21-3148-5WD	MT	R	3148-5		08C			
SW-E21-3149-4WD	MT	R	3149-5		07C			
SW-E21-3149-4WD	UT	R	3149-5		07C			
SW-E21-3149-6WC	UT	R	3149-5				12S	
SW-E21-3149-6WC	MT	R	3149-5				12S	
SW-E21-3149-6WL	UT	R	3149-5				11S	
SW-E21-3149-6WL	MT	R	3149-5				11S	
SW-E41-3162-11WC	VT-1	R	3162-5	RR-A26	08C			Note 21
SW-E41-3162-1WU	MT	R	3162-5			10S		
SW-E41-3162-1WU	UT	R	3162-5			10S		
SW-E41-5373-GW3	MT	R	5373-5			09C		

Category / Item Identification	Exams Require	Selection Basis	Isometric	Relief Request	Inspection Period 1	2	3	Remarks
C-F-2								
C5.51 Circumferential Weld								
SW-E41-5373-GW3	MT	R	5373-5			09C		
SW-G41-3669-3WB	MT	R	3669-5			10S		
SW-N30-3258-13WJ	UT	MS	3258-5				12S	
SW-N30-3258-13WJ	MT	MS	3258-5				12S	
SW-N30-3258-19WJ	MT	MS	3258-5		07C			
SW-N30-3258-19WJ	UT	MS	3258-5		07C			
SW-N30-3258-1WJ	MT	MS	3258-5			10S		
SW-N30-3258-1WJ	UT	MS	3258-5			10S		
SW-N30-3258-7WK	MT	MS	3258-5			09C		
SW-N30-3258-7WK	UT	MS	3258-5			09C		
SW-T48-04-2095-5WD	MT	R	2095-5				11S	
SW-T48-04-2095-WSW3	MT	R	2095-5				11S	
SW-T48-04-2097-18WC	MT	R	2097-5			10S		
SW-T48-04-2097-20WD	MT	MS	3258-5	RR-A26			11S	Note 21
SW-T48-04-2097-21WB	VT-1	R	2097-5	RR-A26	07C			Note 21
SW-T48-04-2097-25WF	VT-1	R	2097-5	RR-A26	07C			Note 21
C5.52 Longituinal Weld								
SW-E41-3162-11WOLD	VT-1	R	3162-5	RR-A26	08C			Note 21
SW-N30-3258-13WJLU	MT		3258-5				12S	
SW-N30-3258-13WJLU	UT		3258-5				12S	
SW-N30-3258-19WJLU	UT		3258-5		07C			
SW-N30-3258-19WJLU	MT		3258-5		07C			
SW-N30-3258-1WJLU	MT		3258-5			10S		
SW-N30-3258-7WKLU	UT		3258-5			09C		
SW-N30-3258-7WKLU	MT		3258-5			09C		
C5.81 Branch Connection Weld								
FW-E11-3146-15FW01	MT	MS	3146-5				12S	
FW-E11-3157-4WF01	MT	R	3157-5				12S	

Category / Item Identification	Exams Require	Selection Basis	Isometric	Relief Request	Inspection Period 1	2	3	Remarks
C-F-2								
C5.81 Branch Connection Weld								
SW-E11-3146-5WC	MT	MS	3146-5		07C			
SW-E11-3146-5WM	MT	HS	3146-5			10S		
SW-E11-3146-7WC	MT	HS	3146-5				12S	
SW-E11-3151-8WD	MT	HS	3151-5		08C			
SW-E11-3160-1WD	MT	HS	3160-5			09C		
SW-E21-3144-5WE	MT	R	3144-5				11S	
SW-N30-3258-13WB	MT	R	3258-5		08C			
C-H								
C.7X Class 2 Pressure Retaining Boundary								
B21 Main Steam	VT-2	Class 2 Boundary	5808-1 5808-2		08C	10S		X includes items C7.10, C7.30, C7.50 and C7.70. Perform each Period
E11 Residual Heat Removal System	VT-2	Class 2 Boundary	5813-1 5813-2 5813-3		08C	10S		X includes items C7.10, C7.30, C7.50 and C7.70. Perform each Period
E21 Core Spray System	VT-2	Class 2 Boundary	5814		08C	10S		X includes items C7.10, C7.30, C7.50 and C7.70. Perform each Period
E41 High Pressure Coolant Injection	VT-2	Class 2 Boundary	5815		08C	10S		X includes items C7.10, C7.30, C7.50 and C7.70. Perform each Period
G41 Fuel Pool Cooling & Cleanup System	VT-2	Class 2 Boundary	5819		08C	10S		X includes items C7.10, C7.30, C7.50 and C7.70. Perform each Period
G51 Torus Water Management System	VT-2	Class 2 Boundary	5820		08C	10S		X includes items C7.10, C7.30, C7.50 and C7.70. Perform each Period
N30 Main & Reheat Steam System	VT-2	Class 2 Boundary	5822		08C	10S		X includes items C7.10, C7.30, C7.50 and C7.70. Perform each Period
P34 Post Accident Sampling	VT-2	Class 2 Boundary	5824		08C	10S		X includes items C7.10, C7.30, C7.50 and C7.70. Perform each Period
T48-04 Containment Atmosphere, Control System	VT-2	Class 2 Boundary	5830-1 5830-2		08C	10S		X includes items C7.10, C7.30, C7.50 and C7.70. Perform each Period
T50 Primary Containment Monitoring System	VT-2	Class 2 Boundary	5831		08C	10S		X includes items C7.10, C7.30, C7.50 and C7.70. Perform each Period

Category / Item Identification	Exams Require	Selection Basis	Isometric	Relief Request	Inspection Period 1	2	3	Remarks
C-H								
C7.X Class 2 Pressure Retaining Boundary								
B21 Main Steam	VT-2	Class 2 Boundary	5808-1 5808-2				12S	X includes items C7.20, C7.40, C7.60 and C7.80. Perform each Interval; Code Case N498-1
C11 Control Rod Drive System	VT-2	Class 2 Boundary	5810-1		08C	10S		X includes items C7.10, C7.30, C7.50 and C7.70. Perform each Period
C11 Control Rod Drive System	VT-2	Class 2 Boundary	5810-1				12S	X includes items C7.20, C7.40, C7.60 and C7.80. Perform each Interval; Code Case N498-1
C41 Standby liquid Control System	VT-2	Class 2 Boundary	5811		08C	10S		X includes items C7.10, C7.30, C7.50 and C7.70. Perform each Period
C41 Standby liquid Control System	VT-2	Class 2 Boundary	5811				12S	X includes items C7.20, C7.40, C7.60 and C7.80. Perform each Interval; Code Case N498-1
E11 Residual Heat Removal System	VT-2	Class 2 Boundary	5813-1 5813-2 5813-3				12S	X includes items C7.20, C7.40, C7.60 and C7.80. Perform each Interval; Code Case N498-1
E21 Core Spray System	VT-2	Class 2 Boundary	5814				12S	X includes items C7.20, C7.40, C7.60 and C7.80. Perform each Interval; Code Case N498-1
E41 High Pressure Coolant Injection	VT-2	Class 2 Boundary	5815	RR-A19			12S	X includes items C7.20, C7.40, C7.60 and C7.80. Perform each Interval; Code Case N498-1
G41 Fuel Pool Cooling & Cleanup System	VT-2	Class 2 Boundary	5819				12S	X includes items C7.20, C7.40, C7.60 and C7.80. Perform each Interval; Code Case N498-1
G51 Torus Water Management System	VT-2	Class 2 Boundary	5820				12S	X includes items C7.20, C7.40, C7.60 and C7.80. Perform each Interval; Code Case N498-1
N30 Main & Reheat Steam System	VT-2	Class 2 Boundary	5822				12S	X includes items C7.20, C7.40, C7.60 and C7.80. Perform each Interval; Code Case N498-1
P34 Post Accident Sampling	VT-2	Class 2 Boundary	5824				12S	X includes items C7.20, C7.40, C7.60 and C7.80. Perform each Interval; Code Case N498-1
T48-04 Containment Atmosphere, Control System	VT-2	Class 2 Boundary	5830-1 5830-2				12S	X includes items C7.20, C7.40, C7.60 and C7.80. Perform each Interval; Code Case N498-1
T50 Primary Containment Monitoring System	VT-2	Class 2 Boundary	5831				12S	X includes items C7.20, C7.40, C7.60 and C7.80. Perform each Interval; Code Case N498-1
D-B								
D2.10 Pressure Retaining Components								

Category / Item Identification	Exams Require	Selection Basis	Isometric	Relief Request	Inspection Period 1	2	3	Remarks
D-B								
D2.10 Pressure Retaining Components								
E11 Residual Heat RemovalSystem Functional Boundary	Visual, VT-2	System Function	Class 3 Systems		08C	10S	12S	Note 15 Perform Each Period; Code Case 498-1
P42 Reactor Building Closed Cooling Water	Visual, VT-2	System Function	Class 3 Systems		08C	10S	12S	Note 15 Perform Each Period; Code Case 498-1
P44 Emergency Equipment Cooling Water	Visual, VT-2	System Function	Class 3 Systems		08C	10S	12S	Note 15 Perform Each Period; Code Case 498-1
P45 Emergency Equipment Service Water	Visual, VT-2	System Function	Class 3 Systems		08C	10S	12S	Note 15 Perform Each Period; Code Case 498-1
R30 Emergency Diesel Generator & Service Water	Visual, VT-2	System Function	Class 3 Systems		08C	10S	12S	Note 15 Perform Each Period; Code Case 498-1
D2.20 Intregal Attachment (Supports and Restraints)								
P45-3360-G11	VT-3	Integral Attachment Weld	3360-2				11S	
D2.40 Intregal Attachment								
E11-3184-G08	VT-3	Integral Attachment Weld	3184-2			09C		
P44-3048-G10	VT-3	Integral Attachment Weld	3048-2		07C			
N/A								
N/A ANSI B31.1 Augmented								
FW-N20-3105-22WO	UT	NUREG 0313	3105-1			09C		Note 2, Category D
FW-N20-3105-0W13	UT	NUREG 0313	3105-1		08C			Note 2, Category D
FW-N20-3105-0W15	UT	NUREG 0313	3105-1				12S	Note 2, Category D
FW-N20-3105-0W23	UT	NUREG 0313	3105-1			09C		Note 2, Category D
FW-N20-3105-14WO	UT	NUREG 0313	3105-1				12S	Note 2, Category D
FW-N20-3105-16W0	UT	NUREG 0313	3105-1		07C			Note 2, Category D
FW-N20-3105-24W0	UT	NUREG 0313	3105-1			10S		Note 2, Category D
FW-N20-3105-OW21	UT	NUREG 0313	3105-1				11S	Note 2, Category D
FW-N20-3107-0W1	UT	NUREG 0313	3107-1			10S		Note 2, Category D

FERMI 2 NUCLEAR POWER PLANT

Category / Item Identification	Exams Require	Selection Basis	Isometric	Relief Request	Inspection Period 1	2	3	Remarks
N/A								
N/A ANSI B31.1 Augmented								
FW-N20-3107-0W17	UT	NUREG 0313	3107-1		07C			Note 2, Category D
FW-N21-3109-18W0	UT	NUREG 0313	3109-1		08C			Note 2, Category D
FW-N21-3109-29WO	UT	NUREG 0313	3109-1				11S	Note 2, Category D
SW-N20-03-B009-BWSE	UT	NUREG 0313	3105-1				11S	Note 2, Category D
SW-N20-03-B010-BWSE	UT	NUREG 0313	3105-1		08C			Note 2, Category D
SW-N20-03-B011-AWSE	UT	NUREG 0313	3105-1			09C		Note 2, Category D
SW-N20-03-B011-BWSE	UT	NUREG 0313	3105-1			09C		Note 2, Category D
SW-N20-03-B012-AWSE	UT	NUREG 0313	3105-1				12S	Note 2, Category D
SW-N20-03-B012-BWSE	UT	NUREG 0313	3105-1				12S	Note 2, Category D
SW-N20-03-B013-AWSE	UT	NUREG 0313	3105-1			10S		Note 2, Category D
SW-N20-03-B013-BWSE	UT	NUREG 0313	3107-1			10S		Note 2, Category D
SW-N20-03-B014-AWSE	UT	NUREG 0313	3105-1		07C			Note 2, Category D
SW-N20-03-B014-BWSE	UT	NUREG 0313	3107-1		07C			Note 2, Category D
SW-N21-01-B001-AWSE	UT	NUREG 0313	3109-1				11S	Note 2, Category D
SW-N21-01-B002-AWSE	UT	NUREG 0313	3109-1		08C			Note 2, Category D

INSERVICE INSPECTION NDE PROGRAM

TABLE B

Code Class	Identification Number	Exams Method	Component Support Type	Relief Request	Inspection Period 1	2	3	Remarks
1	B11-5360-Skirt	VT-3	A		08C			RPV Skirt & Bolting
1	B11-5360-STAB-A	VT-3	G			10S		RPV Stabilizer Supports
1	B11-5360-STAB-B	VT-3	G		08C			RPV Stabilizer Supports
1	B11-5360-STAB-C	VT-3	G			10S		RPV Stabilizer Supports
1	B11-5360-STAB-D	VT-3	G			10S		RPV Stabilizer Supports
1	B11-5360-STAB-E	VT-3	G				11S	RPV Stabilizer Supports
1	B11-5360-STAB-F	VT-3	G				12S	RPV Stabilizer Supports
1	B11-5360-STAB-G	VT-3	G				11S	RPV Stabilizer Supports
1	B11-5360-STAB-H	VT-3	G			10S		RPV Stabilizer Supports
1	B21-2192-G02	VT-3	SP				12S	
1	B21-2192-G13	VT-3	G				12S	
1	B21-2297-G14	VT-3	G			10S		
1	B21-5352-HA1	VT-3	SP		07C			
1	B21-5353-HB2	VT-3	SP		08C			
1	B21-5354-AC1	VT-3	A			10S		
1	B21-5354-HC3	VT-3	SP		08C			
1	B21-5355-GD1	VT-3	G		07C			
1	B31-5356-HA4	VT-3	SP				12S	
1	B31-5357-HA1	VT-3	SP			10S		
1	B31-5357-HA7	VT-3	C		08C			
1	B31-5358-HB3	VT-3	SP		07C			
1	B31-5359-HB6	VT-3	C			10S		
1	B31-5359-HB7	VT-3	C			09C		
1	E11-2298-G01	VT-3	SP				11S	
1	E11-2299-G03	VT-3	SP				11S	
1	E11-2327-G03	VT-3	R			09C		
1	E21-3052-G02	VT-3	SP			09C		
1	E21-3053-G01	VT-3	SP			09C		
1	E21-3053-G03	VT-3	R				12S	

Code Class	Identification Number	Exams Method	Component Support Type	Relief Request	Inspection Period 1	2	3	Remarks
1	E41-2297-G05	VT-3	SP				12S	
1	E51-2192-G11	VT-3	SP		07C			
1	G33-3096-G01	VT-3	SP			10S		
1	G33-3096-G04	VT-3	SP		07C			
1	G33-3096-G10	VT-3	SP				11S	
1	G33-3096-G32	VT-3	G				11S	
1	N21-3536-G02	VT-3	SP			09C		
1	N21-3536-G03	VT-3	SP				12S	
1	N21-3536-G07	VT-3	SP				11S	
1	N21-3537-G04	VT-3	SP			10S		
1	N21-3537-G06	VT-3	SP			10S		
2	B21-2586-G02	VT-3	R				12S	Augmented exam - See ISI 99-056
2	B21-2587-G06	VT-3	SP				11S	Augmented exam - See ISI 99-056
2	B21-2590-G12	VT-3	SP			10S		Augmented exam - See ISI 99-056
2	B21-2592-G04	VT-3	R		07C			Augmented exam - See ISI 99-056
2	B21-2594-G06	VT-3	SP			09C		Augmented exam - See ISI 99-056
2	B21-4095-G06	VT-3	R		07C			Augmented exam - See ISI 99-056
2	C11-2113-G262	VT-3	G				11S	
2	C11-2113-G266	VT-3	R			09C		
2	C11-2113-G274	VT-3	G			09C		
2	C11-2113-G294	VT-3	G		07C			
2	E11-3035-G02	VT-3	R			10S		
2	E11-3035-G05	VT-3	SP			09C		
2	E11-3035-G19	VT-3	G			10S		
2	E11-3035-G24	VT-3	R				12S	
2	E11-3146-G30	VT-3	G				12S	
2	E11-3146-G32	VT-3	SP			09C		
2	E11-3146-G36	VT-3	R			10S		
2	E11-3151-G05	VT-3	SP				11S	

Code Class	Identification Number	Exams Method	Component Support Type	Relief Request	Inspection Period 1	2	3	Remarks
2	E11-3151-G25A	VT-3	R		07C			
2	E11-3151-G29	VT-3	R			09C		
2	E11-3153-G10	VT-3	G		08C			
2	E11-3153-G12	VT-3	SP			09C		
2	E11-3153-G16	VT-3	R				12S	
2	E11-3154-G05	VT-3	SP			10S		
2	E11-3154-G09	VT-3	R		08C			
2	E11-3154-G22	VT-3	R				11S	
2	E11-3154-G28	VT-3	R			09C		
2	E11-3157-G04	VT-3	SP		07C			
2	E11-3157-G24	VT-3	R			09C		
2	E11-3157-G29	VT-3	R			10S		
2	E11-3158-G33	VT-3	R			09C		
2	E11-3158-G46	VT-3	R			09C		
2	E11-3158-G50	VT-3	SP				12S	
2	E11-3159-G06	VT-3	R		07C			
2	E11-3159-G09	VT-3	R				11S	
2	E11-3160-G01	VT-3	SP		08C			
2	E11-3160-G19	VT-3	G				12S	
2	E11-3161-G11	VT-3	R				12S	
2	E11-3161-G15	VT-3	R		08C			
2	E11-3164-G11	VT-3	G		07C			
2	E11-3164-G17A	VT-3	R				12S	
2	E11-3164-G21	VT-3	SP		08C			
2	E11-3177-G18	VT-3	R			10S		
2	E11-3177-G19	VT-3	R		08C			
2	E11-3177-G30	VT-3	G			10S		
2	E11-4611-G04	VT-3	SP				12S	
2	E11-4611-G09	VT-3	R				12S	

Code Class	Identification Number	Exams Method	Component Support Type	Relief Request	Inspection Period 1	2	3	Remarks
2	E11-4611-G15	VT-3	R		08C			
2	E11-4612-G10	VT-3	R				11S	
2	E11-4612-G12	VT-3	G		08C			
2	E11-5370-G01	VT-3	G				11S	Div 2 RHR HTX Supports
2	E11-5370-G02	VT-3	G		08C			Div 2 RHR HTX Supports
2	E11-5370-G03	VT-3	G			09C		Div 2 RHR HTX Supports
2	E11-5370-G04	VT-3	G				11S	Div 2 RHR HTX Supports
2	E11-5370-G05	VT-3	A		08C			Div 2 RHR HTX Supports
2	E21-3144-G03	VT-3	SP		07C			
2	E21-3144-G06	VT-3	A				11S	
2	E21-3144-G11	VT-3	R			10S		
2	E21-3144-G16	VT-3	R		08C			
2	E21-3144-G20	VT-3	R				11S	
2	E21-3145-G05	VT-3	SP				12S	
2	E21-3147-G13	VT-3	R				12S	
2	E21-3147-G20	VT-3	G			09C		
2	E21-3147-G35	VT-3	R		07C			
2	E21-3147-G39	VT-3	SP			10S		
2	E21-3148-G29	VT-3	R			09C		
2	E21-3148-G37	VT-3	SP			10S		
2	E21-3148-G48	VT-3	R				12S	
2	E21-3149-G05	VT-3	SP				11S	
2	E21-3149-G06	VT-3	R				11S	
2	E21-3150-G02	VT-3	R		07C			
2	E41-3162-G01	VT-3	SP			09C		
2	E41-3162-G03	VT-3	R			09C		
2	E41-3162-G13	VT-3	G				12S	
2	E41-3163-G01	VT-3	SP		08C			
2	E41-3163-G12	VT-3	R				12S	

Code Class	Identification Number	Exams Method	Component Support Type	Relief Request	Inspection Period 1	2	3	Remarks
2	E41-3167-G01	VT-3	R		07C			
2	E41-3167-G13	VT-3	SP			10S		
2	E41-3167-G15	VT-3	R				12S	
2	E41-3169-G100	VT-3	G		08C			
2	E41-3169-G13	VT-3	SP			09G		
2	E41-3169-G17	VT-3	R			10S		
2	E41-3172-G01	VT-3	SP		07C			
2	E41-3172-G14	VT-3	R				11S	
2	E41-3172-G18	VT-3	G				11S	
2	N30-3258-G02	VT-3	C		07C			
2	N30-3258-G07	VT-3	C		07C			
2	N30-3258-G17(A-D)	VT-3	R			10S		
2	N30-3259-G02	VT-3	C		07C			
2	N30-3259-G25	VT-3	R			09C		
2	N30-3259-G73	VT-3	SP				12S	
2	P11-3566-G10	VT-3	SP		07C			
2	T48-2095-G01	VT-3	SP		08C			
2	T48-2095-G07B	VT-3	R				11S	
2	T48-2095-G10A	VT-3	R			10S		
2	T48-2095-G19	VT-3	G				11S	
2	T48-2095-G22	VT-3	R			09C		
2	T48-2095-G24A	VT-3	R			10S		
2	T48-2095-G25	VT-3	R		07C			
2	T48-2095-G26A	VT-3	R				12S	
2	T48-2097-G07	VT-3	R			10S		
2	T48-2097-G13B	VT-3	R		07C			
2	T48-2097-G17	VT-3	R				11S	
2	T48-2097-G19	VT-3	G				11S	
2	T48-2097-G21	VT-3	R		07C			

Code Class	Identification Number	Exams Method	Component Support Type	Relief Request	Inspection Period 1	2	3	Remarks
2	T48-2097-G22A	VT-3	R			09C		
2	T48-2097-G25A	VT-3	R		08C			
2	T48-2097-G34	VT-3	G			09C		
3	E11-2179-G20	VT-3	R		07C			
3	E11-2180-G14	VT-3	G				12S	
3	E11-2183-G07	VT-3	G			10S		
3	E11-2183-G15	VT-3	R		08C			
3	E11-2184-G12	VT-3	R			10S		
3	E11-2184-G22	VT-3	G		08C			
3	E11-3184-G04	VT-3	G				12S	
3	E11-3184-G08	VT-3	R			09C		
3	E11-3184-G10	VT-3	R				11S	
3	E11-3184-G18	VT-3	R		07C			
3	E11-3185-G40	VT-3	R			09C		
3	E11-3185-G53	VT-3	SP			09C		
3	E11-3185-G58	VT-3	SP				12S	
3	E11-3185-G60	VT-3	G			09C		
3	G33-3096-G09	VT-3	R			10S		
3	P42-3340-G06	VT-3	SP			09C		
3	P44-3047-G28	VT-3	G				11S	
3	P44-3048-G10	VT-3	SP		07C			
3	P44-3084-G10	VT-3	R		07C			
3	P44-3084-G15	VT-3	R			10S		
3	P44-3189-G38	VT-3	SP		08C			
3	P44-3189-G42	VT-3	R			10S		
3	P44-3189-G47	VT-3	R		07C			
3	P44-3336-G01	VT-3	A			09C		
3	P44-3336-G15	VT-3	R				11S	
3	P44-3337-G13	VT-3	R				12S	

Code Class	Identification Number	Exams Method	Component Support Type	Relief Request	Inspection Period 1	2	3	Remarks
3	P44-3337-G16	VT-3	R			10S		
3	P44-3345-G02	VT-3	G		08C			
3	P44-3345-G08	VT-3	R			09C		
3	P44-3346-G02	VT-3	G				11S	
3	P44-3346-G12	VT-3	R				12S	
3	P44-3347-G10	VT-3	R		07C			
3	P44-3347-G14	VT-3	R				12S	
3	P44-3348-G12	VT-3	A		07C			
3	P44-3351-G28	VT-3	R		08C			
3	P44-3351-G41	VT-3	SP				12S	
3	P44-3368-G31	VT-3	R				11S	
3	P44-3368-G38	VT-3	R				12S	
3	P44-3558-G14	VT-3	R				12S	
3	P44-3559-G12	VT-3	R			10S		
3	P44-4624-G01	VT-3	G				11S	
3	P44-4624-G12	VT-3	R				12S	
3	P44-4625-G03	VT-3	G				11S	
3	P44-4625-G13	VT-3	R			09S		
3	P44-4628-G02	VT-3	R			10S		
3	P44-4629-G05	VT-3	G			09S		
3	P44-4629-G08	VT-3	R		08C			
3	P44-EECW Head Tank Sprts (Div. 2)	VT-3			08C			
3	P44-EECW Htr Sprts (Div. 1)	VT-3					12S	
3	P45-2178-G09	VT-3	R			09S		
3	P45-2204-G11	VT-3	R				11S	
3	P45-3352-G02	VT-3	G				12S	
3	P45-3352-G06	VT-3	R		07C			
3	P45-3353-G05	VT-3	R			10S		
3	P45-3359-G03	VT-3	G		08C			

Code Class	Identification Number	Exams Method	Component Support Type	Relief Request	Inspection Period 1	2	3	Remarks
3	P45-3359-G11	VT-3	SP				11S	
3	P45-3360-G04	VT-3	R			10S		
3	P45-3360-G07	VT-3	G			09S		
3	P45-4626-G03	VT-3	G				12S	
3	P45-4626-G08	VT-3	A				11S	
3	P45-4627-G06	VT-3	A				12S	
3	P45-4627-G12	VT-3	R				11S	
3	P45-4630-G04	VT-3	R			09S		
3	P45-4631-G04	VT-3	R			09S		
3	P45-4632-G08	VT-3	R			10S		
3	P45-4632-G10	VT-3	G				11S	
3	R30-2176-G17	VT-3	G		07C			
3	R30-2176-G28	VT-3	A			10S		
3	R30-2176-G31	VT-3	G		08C			
3	R30-2177-G04	VT-3	R			09S		
3	R30-2177-G27	VT-3	R				11S	
3	R30-2177-G31	VT-3	G		08C			
3	R30-2181-G04	VT-3	R				11S	
3	R30-2181-G15	VT-3	R			10S		
3	R30-2182-G02	VT-3	G			09S		
3	R30-2182-G14	VT-3	R		07C			

SECTION 8

SUMMARY OF CONTAINMENT INSPECTIONS (IWE)

8. INTRODUCTION

Section 8 is a Summary of the IWE inspection activities completed at Fermi 2 during the ninth refueling outage. The RF-09 scope included the 2nd period 100% inspection of the accessible surfaces of the primary containment and a representative sample of VT-1 and VT-3 inspections of primary containment components. This is the second refuel, in the 2nd period, consisting of three refuels, with RF-09 containing the majority of the inspections.

8.1 ABSTRACT OF CONDITIONS NOTED AND CORRECTIVE ACTIONS TAKEN

Locations where degraded coating was identified during RF-07 and RF-08 were re-inspected prior to their repair. Areas identified showed no further degradation in their condition. These areas had a thin layer of surface rust, which was a result of condensation from overhead lines dripping down onto the primary containment shell.

During RF-09, 11 locations below the 583' elevation had their protective coating replaced. During the protective coating prep work, no material loss of the primary containment shell was noted. In addition to these 11 areas, a pit at the I-Beam weld, at elevation 583' azimuth 77 deg, was cleaned and re-painted. Finally, seven arc strikes, which had been previously blend ground, were re-coated.

During RF-09, areas that were repaired during RF-07 were re-inspected with particular attention being given to the moisture seal located at the concrete floor to drywell shell interface and the painted surface in this area. These inspections identified no new or unexpected degradation.

The inspections of the remaineder of the primary containment resulted in the issuance of 7 corrective action resolution documents (CARDs). CARD 03-14450 "Water Accumulation in Torus Downcomer to Vent Header Tee Connections," was generated to address the water accumulation in the ring header. None of the other CARDs were an operability concern and were issued for trending and cleanliness issues.

8.2 PROGRAM STATUS, ASME SECTION XI CREDIT – IWE

8.2.1 CATEGORY: E-A Containment Surfaces (1)
ITEM NO: E1.11 Accessible Surface Areas (each period)

Description	Total Comp	Total Requiring Examination	Examined To Date	Examined To Date (%)	Minimum Required (%)	Maximum Allowed (%)
Accessible Liner Surfaces	1	1	1	100%	100%	100%
TOTALS	1	1	1	100%	100%	100%

NOTE:

(1) Per 10CFR50.55a, 100% of the accessible surfaces of the containment were required to be inspected (General Visual) during the first period (RF-07) and once every period after. During RF-09, a 100% inspection was completed of the accessible areas of the primary containment this completes the inspection requirement for the 2nd period.

8.2.2 CATEGORY: E-A Containment Surfaces
ITEM NO: E1.12 Accessible Surface Areas

Description	Total Comp	Total Requiring Examination	Examined To Date	Examined To Date (%)	Minimum Required (%) (1)	Maximum Allowed (%)
Accessible Liner Surfaces	1	1	0 (Note 1)	0%	N/A	N/A
TOTALS	1	1	0 (Note 1)	0%	N/A	N/A

NOTE

(1) Inspections (VT-3) are required to be performed during the 3rd Period, Refuel Outages 11 and 12.

8.2.3 CATEGORY: E-A Containment Surfaces

ITEM NO: E1.20 Vent System - Accessible Surface Areas

Description	Total Comp	Total Requiring Examination	Examined To Date	Examined To Date (%)	Minimum Required (%) (1)	Maximum Allowed (%)
Accessible Liner Surfaces	1	1	0 (Note 1)	0%	N/A	N/A
TOTALS	1	1	0 (Note 1)	0%	N/A	N/A

NOTE

(1) Inspections (VT-3) are required to be performed during 3rd Period, Refuel Outages 11 and 12.

8.2.4 CATEGORY: E-C Containment Surfaces Requiring Augmented Examination

ITEM NO: E4.11 Visible Surface

Description	Total Comp	Total Requiring Examination (1)	Examined To Date (1)	Examined To Date (%)	Minimum Required (%)	Maximum Allowed (%)
Visual Surfaces	0	0	0	0%	0%	0%
TOTAL	0	0	0	0%	0%	0%

NOTE

(1) No Visual augmented examinations have been identified.

8.2.5 CATEGORY: E-C Containment Surfaces Requiring Augmented Examination

ITEM NO: E1.12 Surface Area Grid, Min Wall Thickness Locations

Description	Total Comp	Total Requiring Examination (1)	Examined To Date	Examined To Date (%)	Minimum Required (%)	Maximum Allowed (%)
Surface Area Grid	0	0	0	N/A	N/A	N/A
TOTAL	0	0	0	N/A	N/A	N/A

NOTE

(1) No Visual augmented examinations have been identified.

8.2.6 CATEGORY: E-D Seals, Gaskets, and Moisture Barriers
ITEM NO: E5.10 Seals (1)

Description	Total Comp	Total Requiring Examination	Examined To Date	Examined To Date (%)	Minimum Required (%)	Maximum Allowed (%)
Seals	61	61	(Note 1)	N/A	N/A	N/A
TOTAL	61	61	(Note 1)	N/A	N/A	N/A

NOTE

(1) Code requires a visual examination, VT-3, of all seals, gaskets, and other devices once each interval. Request for Relief CISI-001 has been approved to verify the leak tightness of seals and gaskets in accordance with 10CFR50, Appendix J.

8.2.7 CATEGORY: E-D Seals, Gaskets, and Moisture Barriers
ITEM NO: E5.20 Gaskets (1)

Description	Total Comp	Total Requiring Examination	Examined To Date	Examined To Date (%)	Minimum Required (%)	Maximum Allowed (%)
Gasket	31	31	(Note 1)	N/A	N/A	N/A
TOTAL	31	31	(Note 1)	N/A	N/A	N/A

NOTE

(1) Code requires a visual examination, VT-3, of all seals, gaskets, and other devices once each interval. Request for Relief CISI-001 has been approved to verify the leak tightness of seals and gaskets in accordance with 10CFR50 Appendix J.

8.2.8 CATEGORY: E-D Seals, Gaskets, and Moisture Barriers
ITEM NO: E5.30 Moisture Barrier

Description	Total Comp	Total Requiring Examination	Examined To Date	Examined To Date (%)	Minimum Required (%)	Maximum Allowed (%)
Moisture Barrier	1	1	1	67%	35%	67%
TOTAL	1	1	1	67%	35%	67%

NOTE

During RF-07, 100% of the moisture barrier was inspected and replaced. There was no damage to the liner at this location. During RF-08 and RF-09, it was inspected again with no degradation identified. 67% credited for RF-08 and RF-09.

8.2.9 CATEGORY: E-G Pressure Retaining Bolting
ITEM NO: E8.10 Bolting Connections

Description	Total Comp	Total Requiring Examination	Examined To Date	Examined To Date (%)	Minimum Required (%)	Maximum Allowed (%)
Bolting Connections	89	89	48	53.9%	34%	67%
TOTAL	89	89	48	53.9%	34%	67%

8.2.10 CATEGORY: E-G Pressure Retaining Bolting
ITEM NO: E8.20 Bolting Connections – (Note 1)

Description	Total Comp	Total Requiring Examination	Examined To Date	Examined To Date (%)	Minimum Required (%)	Maximum Allowed (%)
Bolting Connections Torque	89	89	(Note 1)	N/A	N/A	N/A
TOTAL	89	89	(Note 1)	N/A	N/A	N/A

NOTE

(1) Code requires a bolt torque or tension test for bolted connections not disassembled. Request for Relief CISI-007 has been approved to verify the leak tightness of bolted connections in accordance with 10CFR50, Appendix J.

8.2.11 CATEGORY: E-P Pressure Retaining Components
ITEM NO: E9.10 Pressure Retaining Boundary

Description	Total Comp	Total Requiring Examination	Examined To Date	Examined To Date (%)	Minimum Required (%)	Maximum Allowed (%)
Pressure Retaining Boundary	1	1	(Note 1)	N/A	N/A	N/A
TOTAL	1	1	(Note 1)	N/A	N/A	N/A

NOTE

(1) Will be tested in accordance with 10CFR50, Appendix J Program.

8.2.12 CATEGORY: E-P Pressure Retaining Components
ITEM NO: E9.20 Containment Penetration Bellows

Description	Total Comp	Total Requiring Examination	Examined To Date	Examined To Date (%)	Minimum Required (%)	Maximum Allowed (%)
Containment Penetration Bellows	29	29	(Note 1)	N/A	N/A	N/A
TOTAL	29	29	(Note 1)	N/A	N/A	N/A

NOTE

(1) Will be tested in accordance with 10CFR50, Appendix J Program.

8.2.13 CATEGORY: E-P Pressure Retaining Components
ITEM NO: E9.30 Airlocks

Description	Total Comp	Total Requiring Examination	Examined To Date	Examined To Date (%)	Minimum Required (%)	Maximum Allowed (%)
Airlock	1	1	(Note 1)	N/A	N/A	N/A
	1	1	(Note 1)	N/A	N/A	N/A

NOTE

(1) Will be tested in accordance with 10CFR50, Appendix J Program.

8.2.14 CATEGORY: E-P Pressure Retaining Components
ITEM NO: E9.40 Seals and Gaskets

Description	Total Comp	Total Requiring Examination	Examined To Date	Examined To Date (%)	Minimum Required (%)	Maximum Allowed (%)
Seals And Gaskets	92	92	(Note 1)	N/A	N/A	N/A
	92	92	(Note 1)	N/A	N/A	N/A

NOTE

(1) Will be tested in accordance with 10CFR50, Appendix J Program.

SECTION 9

SECTION XI REPAIR/REPLACEMENT NIS-2 FORMS INDEX

9. NIS-2 DATA REPORT INDEX

LOG No.	WORK PKG. No.	COMPONENT No.	ASME CLASS	DESCRIPTION
02-001	B273060100	B2104F013R	1	SRV Refurbishment
02-002	R300040100	R3000F142A	3	Replace carbon steel disc with carbon steel disc.
02-006A	000Z020786	E1100F050A	1	Replace Disc
02-006B	000Z020787	E1100F050B	1	Replace Disc
02-007	VARIOUS	B2104F013A-R	1	RF-09 SRV Replacement
02-008	A498030100 A519030100	VARIOUS	N/A	RF-09 mechanical snubber rebuild
02-009	A497030100 A514030100	VARIOUS	N/A	RF-09 hydraulic snubber rebuild
02-010	000Z021705	R3000F142A	3	Replace carbon steel disc with stainless steel
02-012	R303020100	R3000F142D	3	Replace carbon steel disc with stainless steel
02-014	000Z011314 / 000Z022265	P45F400	3	Replace Valve
02-015	VARIOUS	VARIOUS	1	CRDM Rebuilds
02-016	000Z021044	N30-2186-G18	N/A	Rework hanger
02-017	N/A	E1100F025B		Refurbish relief valve
02-019	000Z023784	E51-3174-G07	N/A	Modify Pipe Support
03-001	VARIOUS	VARIOUS	1	RF-09 CRDM replacement installation and replacement bolting
03-002	000Z002161	G4100F231	3	Install new throttle valve for Fuel-Pool Cooling System
03-003	000Z023688	E11-3185-G051	N/A	Replace leaking snubber

LOG No.	WORK PKG. No.	COMPONENT No.	ASME CLASS	DESCRIPTION
03-011	Y664030100	T2300F400D	2	Replace Bolting
03-012	P521630100	G3300F120	1	Replace Bolting
03-013	000Z031288	E1151C001C	3	Replace Bolting
03-014	000Z031277	E1151C001A	3	Replace Bolting
03-016	000Z031322, 000Z031323	R3001C007, R3001C008	3	Bolting replacement and pump column repair
03-017	000Z031324	P4500C002B	3	Bolting replacement and pump column repair
03-018	000Z031320, 000Z031321, 000Z031466	E1151C001B, E1151C001D	3	Bolting replacement and pump column repair
03-019	000Z031253	T4804F603A	2	Bolting replacement
03-020	000Z023952	E1100F031	2	Replace valve disc
03-021	000Z031294, 000Z031597	P4500C002A	3	Repair pump column and replace bolting
03-022	000Z031290, 000Z031293	R3001C005, R3001C006	3	Repair pump column and replace bolting
03-023	000Z031478, 000Z031597	E1151C001A, E1151C001C	3	Repair pump column and replace bolting
03-024	000Z031598	B2104F013J	1	Repair inlet flange/gasket surface
03-025	000Z030591	P44F402A	3	Replace cage, stem and plug

LOG No.	WORK PKG. No.	COMPONENT No.	ASME CLASS	DESCRIPTION
03-028	000Z031881	G3300F120	1	Bolting replacement
03-029	000Z031863	E1100F050A	1	Bolting replacement for Bonnet

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

1. Owner Detroit Edison Company — Name
   6400 North Dixie Highway, Newport MI 48166 — Address
   Date 03/19/03
   Sheet 1 of 2
2. Plant Fermi 2 Nuclear Power Plant — Name
   6400 North Dixie Highway, Newport MI 48166 — Address
   Unit 2
   Repair: Target Rock Corp, P.O. NS-325856
   Testing: NWS Technologies, P.O. NS-325815 — Repair Organization P.O. No., Job No., etc.
3. Work Performed by Detroit Edison Company — Name
   6400 North Dixie Highway, Newport, MI 48166 — Address
   Type Code Symbol Stamp N/A
   Authorization No. N/A
   Expiration Date N/A
4. Identification of System B21 Nuclear Boiler, Main Steam Safety Relief Valve Pilot Assemblies, and Main Bodies.
5. (a) Applicable Construction Code ASME III Class 1 19 71 Edition S'1970 Addenda, NA Code Case
   (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1992, 92 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)
SRV Pilot Assemblies	Target Rock	Various, See attached list	N/A	B2104F013A-R	N/A	Replacement	Yes
SRV Main Body Assemblies	Target Rock	Various, See attached list	N/A	B2104F013A-R	N/A	Replacement	Yes

7. Description of Work Rebuild & Test 15 SRV Pilot Assemblies, and 4 SRV Main Bodies as required.
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure [ ]
   Other ☒ Pressure ____ psi Test Temp.____ °F)

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) informa-tion 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.

(10/94)

Form NIS-2 (Back)

9. Remarks Applicable Manufacturer's Data Reports to be attached where requred.

All 15 SRV Pilot Assemblies, and 4 main Bodies were rebuilt and tested as necessary under Target Rock P.O. NS-325856, and NWS P.O. NS-325815. All Parts used are recorded in Work Request B273060100, as well as the Target Rock final document package from refurbishment activities. See attachment (1) list of SRV Main Body Serial Numbers that Pressure Retaining Parts were used on. No welding repairs were performed.

CERTIFICATE OF COMPLIANCE

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

Type Code Symbol Stamp Original Code Data Report to be supplemented by Section XI Program 02-001 and TR field Service report 02Z-010

Certificate of Authorization No. N/A Expiration Date N/A

Signed [signature] LEAD ISI ENG Date JULY 21, 2003
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE 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 Michigan and employed by H. S. B. I. & I. Co. of One State Street, Hartford, CT 06102 have inspected the components described in this Owner's Report during the period March 21, 2002 to 07-28-2003, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's 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 Owner's 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.

[signature] Commissions NB1610
Inspector's Signature National Board, State, Province, and Endorsements

Date July 28, 2003

(10/94)

Pressure Retaining Parts Installed in SRV Main Bodies

Main Valve Body S/N#	Pilot Base to body Nut 1-1/8-12 unf. Stock#252-0544	P.O. # , Lot#, or HT#
336	4ea.	P.O.# 362415, HT#D230
338	4ea.	P.O.# 362415, HT#D230
318	4ea.	P.O.# 362415, HT#D230
319	4ea.	P.O.# 362415, HT#D230

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

1. Owner Detroit Edison Company (Name) — Date May 23, 2002
   6400 North Dixie Highway, Newport MI 48166 (Address) — Sheet 1 of 2
2. Plant Fermi 2 Nuclear Power Plant (Name) — Unit 2
   6400 North Dixie Highway, Newport MI 48166 (Address) — DECo Maintenance (Repair Organization P.O. No., Job No., etc.)
3. Work Performed by Detroit Edison Company (Name) — Type Code Symbol Stamp N/A
   6400 North Dixie Highway, Newport, MI 48166 (Address) — Authorization No. N/A; Expiration Date N/A
4. Identification of System T & B N5-5 Diesel Generator Service Water (Div. 1)
5. (a) Applicable Construction Code ASME III Class 3 19 71 Edition W '71 Addenda, N/A Code Case
   (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1992 –92 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)
R3000F142A	Wm. Powell	66171-8	N/A	V15-2096	1976	Replacement	Y

7. Description of Work Install Replacement Carbon Steel/Stainless Steel Faced Disc in Check Valve.
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☒
   Other ☐ Pressure _____ psi Test Temp._____ °F

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.

9. Remarks Replacement Disc procurred per P.O. #357513, Serial No. CM8886B.

Stainless Alloy Disc will be installed at a later time. (CARD 02-14702)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this Replacement conforms to the rules of the ASME Code, Section XI.
repair or replacement

Type Code Symbol Stamp: Original Code Data Report N5-5(T&B) to be supplemented by Owners Section XI Program 02-002

Certificate of Authorization No. N/A Expiration Date N/A

Signed R.M. Hambleton, Lead ISI Engineer Date MAY 23 ,2002
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE 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 Michigan and employed by H S B CT. of One State Street, Hartford, CT 06102 have inspected the components described in this Owner's Report during the period 03-25-02 to 05-24-02, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's 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 Owner's 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.

Commissions NB9486 NIA,S,R,T,S NC,D,O
Inspector's Signature National Board, State, Province, and Endorsements

Date May 24 ,2002

(12/82)

For complete work package, see Work Request R300040100

As Required by the Provisions of the ASME Code Rules, Section III, Div. 1

(1)

1. (a) Manufactured by The Wm. Powell Company, 3233 Colerain Avenue, Cincinnati, OH 45225
(Name and address of NPT Certificate Holder)

NS-2 for 02-002 sheet 2

(b) Manufactured for Detroit Edison, 6400 Dixie Highway, Newport, MI 48166
(Name and addres of N Certificate Holder for completed nuclear component)

2. Identification-Certificate Holder's Serial No. Part CM 8886B ✓ Nat'l Bd. No. N/A CRN No. N/A

(a) Constructed According to Drawing No. P/N 26-109986-20000-19 ✓ Drawing Prepared by The Wm. Powell Co.

(b) Description of Part Inspected 1 - Disc for 8" Figure 3061 Swing Check Valve

(c) Applicable ASME Code Section III, Edition 1971 ; Addenda date Winter 71 . Case No. N/A Class 3

3. Remarks: _____
(Brief description of service for which component was designed.)

Item 4-8 inclusive to be completed for single wall vessels, jackets of jacketed vessels, or shells of heat exchangers.

4. Shell Material _____ T.S. _____ Nom. Thk. _____ in. Corr. Allow. _____ in. Diam. _____ ft. _____ in. Length _____ ft _____ in.
(Kind & Spec No.) (Min. of range specified)

5. Seams: Long _____ H.T.[1] _____ R.T. _____ Efficiency _____ %
Girth _____ H.T.[1] _____ R.T. _____ No. of Courses _____

6. Heads (a) Material _____ T.S. _____ (b) Material _____ T.S. _____

Location (top, bottom, ends)	Thickness	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diam.	Side to Pressure (convex or concave)
(a)								
(b)								

If removable, bolts used _____ Other fastening _____
(Material Spec. No., T.S., Size, Number) (Describe or attach sketch)

7. Jacket Closure _____
(Describe as ogee and weld, bar, etc. If bar, give dimensions. If bolted, describe or sketch)

8. (a) Design Pressure[2] _____ psi at _____ °F (b) Min. Pressure-Test Temp _____ °F

Items 9 and 10 to be completed for tube sections.

9. Tube Sheets: Stationary. Material _____ Diam. _____ in. Thk. _____ in. Attachment _____
(Kind & Spec. No.) (Subject to pres.) (Welded, bolted)

Floating. Material _____ Diam _____ in. Thk. _____ in. Attachment _____

10. Tubes. Material _____ O.D. _____ in. Thk. _____ in or gage Number _____ Type _____
(Straight or U)

Items 11-14 inclusive to be completed for inner chambers of jacketed vessels or channels of heat exchangers.

11. Shell. Material _____ T.S. _____ Nom. Thk. _____ in. Corr. Allow. _____ in. Diam. _____ ft. _____ in. Length _____ ft. _____ in
(Kind & Spec. No.) (Min. of range specified)

12. Seams Long _____ H.T.[1] _____ R.T. _____ Efficiency _____ %
Girth _____ H.T.[1] _____ R.T. _____ No. of Courses _____

13. Heads: (a) Material _____ T.S. _____ (b) Material _____ T.S. _____

Location	Thickness	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diam.	Side to Pressure (convex or concave)
(a) Top, bottom, ends								
(b) Channel								

If removable, bolts used (a) _____ (b) _____ (c) _____ Other fastening _____
(Describe or attach sketch)

14. (a) Design Pressure[2] _____ psi at _____ °F (b) Min. Pressure-Test Temp. _____ °F

[1] If postweld heat-treated. [2] List other internal or external pressures with coincident temperature when applicable.

*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 and 2 of this Data Report is included on each sheet; and (3) each sheet is numbered and number of sheets is recorded in item 3, *Remarks*.

FORM N-2 (Back)

(2)

Items below to be completed for all vessels where applicable.

15. Safety Valve Outlets: Number _____ Size _____ Location _____

16. Nozzles:

Purpose (inlet, outlet, drain)	Number	Diam. or Size	Type	Material	Thickness	Reinforcement Material	How Attached

17. Inspection Openings: Manholes: No. _____ Size _____ Location _____
Handholes: No. _____ Size _____ Location _____
Threaded. No. _____ Size _____ Location _____

18. Supports Skirt _____ (Yes or no) Lugs _____ (Number) Legs _____ (Number) Other _____ (Describe) Attached _____ (Where & how)

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 Design 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 Design Report if the appurtenance is not included in the component Design Specification and Design Report.)

Date June 25 ~~19~~ 2001 Signed The Wm. Powell Co. By Gerald Crue
(NPT Certificate Holder)

Certificate of Authorization Expires 12/13/03 Certificate of Authorization No. N1579

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 the State or Province of Ohio and employed by H.S.B.I & I Co. of Hartford, CT have inspected the part of a pressure vessel described in this Partial Data Report on June 28, 2001 ~~19~~ , 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 6.28.2001 ~~19~~

_____ Commissions NB 10504 N. Ohio Cert
Inspector's Signature National Board, State, Province and No.

02-006A

03-029

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

1. Owner: Detroit Edison Company (Name)
6400 North Dixie Highway, Newport MI 48166 (Address)
Date: June 2, 2003
Sheet: 1 of 2

2. Plant: Fermi 2 Nuclear Power Plant (Name)
6400 North Dixie Highway, Newport MI 48166 (Address)
Unit: 2
Deco Maintenance (Repair Organization P.O. No., Job No., etc.)

3. Work Performed by: Detroit Edison Company (Name)
6400 North Dixie Highway, Newport, MI 48166 (Address)
Type Code Symbol Stamp: N/A
Authorization No.: N/A
Expiration Date: N/A

4. Identification of System: N5-094 Residual Heat Removal (LPCI) Division 1

5. (a) Applicable Construction Code: ASME III, Class 1 19 71 Edition '71 Addenda N/A Code Case

(b) Applicable Edition/Addenda of Section XI Utilized for Repairs or Replacements: 1992-92 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)
E1100F050A	Anchor Darling	IN-069	N/A	V8-2163	1974	Replacement	Y

7. Description of Work: Install replacement Disc and replace bolting material as determined by the Maintenance Supervisor following valve disassembly

8. Tests Conducted: Hydrostatic [ ] Pneumatic [ ] Nominal Operating Pressure [X]
Other [ ] Pressure _____ psi Test Temp._____

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.

(10/94)

9. Remarks: Replacement Parts included a new Disc that was previously modified per Section XI Program 01-006B that was procured per PO # 357655, SA 105, HT Code 4460, SN 2. (Applicable Data Report Atached) In addition, the following quantities of bolting material was also replaced.

(8) 1-1/4"-8 TPI Studs PO# 880392, SA 193, Grade B7, Trace E171
(4) 5/8"-11 TPI Studs PO# 955769, SA 193, Grade B7, Trace C232
(8) 5/8"- 8 TPI Nuts PO# 965260, SA 194, Grade 2H, Trace F554
(8) 1-1/4"-8 TPI Nuts PO# 739669, SA 194, Grade 7, Trace RH98

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this Replacement conforms to the rules of theASME Code, Section XI.

Type Code Symbol Stamp Original Code data report N5-094 to be supplemented by Owners Section XI Program 02-006A and Section XI Program 03-029

Certificate of Authorization No. N/A Expiration Date N/A

Signed R.M. Hambleton Lead ISI Engineer Date JUNE 2 ,20 03
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE 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 Michigan and employed by HSB CT of One State Street, Hartford, CT 06102 have inspected the components described in this Owner's Report during the period 4-12-03 to 6-24-03, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's 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 Owner's 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.

Commissions NB 6010
Inspector's Signature — National Board, State, Province, and Endorsements

Date June 24 2003

(10/94)

For complete work package, see Work Request 000Z020786 and 000Z031863

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

NIS 2 ELLOOFOSOL
02-006A & 03-029
SHEET 2 OF 2

1. (a) Manufactured by Flowserve Corporation, 701 First Street, Williamsport, PA 17701
(Name and address of NPT Certificate Holder)

(b) Manufactured for Detroit Edison, P.O. Box 1659, Detroit, MI 48231
(Name and address of N Certificate Holder for completed nuclear component)

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

(a) Constructed According to Drawing No. D11726 R/A Drawing Prepared by Flowserve Corp. ✓

(b) Description of Part Inspected Swing Check Disc w/Stellite Tess Res. Seat, Ht. #H4460 SA105 ✓

(c) Applicable ASME Code: Section III, Edition 1980, Addenda date Summer'82 Case No. N/A Class 1

3. Remarks: Spare Part(s) for 24"-900# Swing Check Valve (without Resilient Seat) ✓
(Brief description of service for which component was designed)

Flowserve S.O. and Item No: P932G-1

NOTE: No Hydrotesting Performed

Enrico Fermi 2 Site

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 7/30/2001 Signed Flowserve Corporation By
(NPT Certificate Holder)

Certificate of Authorization Expires 4/15/04 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/or the State ~~of~~ of 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 7-16-01 thru 7-30-01 19__, 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 7-30-01 By CU 256

Charles Young
Inspector's Signature

Commissions Pennsylvania 2392
National Board, State, Province and No.

QC ACCEPTED 21 EDISON

*Supplemental sheets in form of lists, sketches or drawings may be used provided (1) size is 8½" x 11", (2) information in items 1-2 on this Data Report is included on each sheet, and (3) each sheet is numbered and number of sheets is recorded in item 3, "Remarks".

(10/77) This form (E00040) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, N.Y. 10017

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

1. Owner: Detroit Edison Company (Name) — Date: June 2, 2003
   6400 North Dixie Highway, Newport MI 48166 (Address) — Sheet: 1 of 2
2. Plant: Fermi 2 Nuclear Power Plant (Name) — Unit: 2
   6400 North Dixie Highway, Newport MI 48166 (Address)
   Repair Organization: Deco Maintenance (Repair Organization P.O. No., Job No., etc.)
3. Work Performed by: Detroit Edison Company (Name) — Type Code Symbol Stamp: N/A
   6400 North Dixie Highway, Newport, MI 48166 (Address) — Authorization No.: N/A — Expiration Date: N/A
4. Identification of System: N5-0312 Residual Heat Removal (LPCI) Division 2
5. (a) Applicable Construction Code: ASME III, Class 1 19 71 Edition '71 Addenda N/A Code Case
   (b) Applicable Edition/Addenda of Section XI Utilized for Repairs or Replacements: 1992-92 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)
E1100F050B	Anchor Darling	IN-077	N/A	V8-2164	1974	Replacement	Y

7. Description of Work: Install replacement Disc and replace bolting material as determined by the Maintenance Supervisor following valve disassembly
8. Tests Conducted: Hydrostatic [ ] Pneumatic [ ] Nominal Operating Pressure [X]
   Other [ ] Pressure _____ psi Test Temp._____

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.

(10/94)

Form NIS-2 (Back)

9. Remarks: Replacement Parts included a new Disc that was previously modified per Section XI Program 01-006A that was procured per PO # 279604, SA 105, HT Code C1788, SN 1.(Applicable Data Reports Atached) In addition, the following quantities of bolting material was also replaced.

4	1-1/4"-8 TPI Studs PO# 965330, SA 193, Grade B7, Trace F556
4	1-1/4"-8 TPI Studs PO# 880390, SA 193, Grade B7, Trace E171
8	1-1/4"-8 TPI Nuts PO# 880299, SA 194, Grade 7, Trace 68395

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this Replacement conforms to the rules of theASME Code, Section XI.

Type Code Symbol Stamp Original Code data report N5-0312 to be supplemented by Owners Section XI Program 02-006B

Certificate of Authorization No. N/A Expiration Date N/A

Signed R.M. Hambleton Lead ISI Engineer Date JUNE 2 ,2003
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE 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 Michigan and employed by HSB CT of One State Street, Hartford, CT 06102 have inspected the components described in this Owner's Report during the period 4-12-03 to 6-23-03, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's 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 Owner's 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.

Commissions MI 6170
Inspector's Signature National Board, State, Province, and Endorsements

Date June 23 2003

(10/94)

For complete work package, see Work Request 000Z020787

FORM N-4 NPT CERTIFICATE HOLDERS' DATA REPORT FOR NUCLEAR PART AND APPURTENANCES
As required by the Provisions of the ASME Code Rules, Section III, Div. 1

NIS-2 E1100P050B
02-006B
SHEET 2 OF 2

1. (a) Manufactured by Anchor/Darling Valve Co., 701 First St., Williamsport, PA 17701
(Name and address of NPT Certificate Holder)

(b) Manufactured for Detroit Edison, P.O. Box 1659, Detroit, MI 48231
(Name and address of N Certificate Holder for purchaser named in (b))

2. Manufacturer's Serial No. of Part 1 Mat'l Eq. No. N/A

(c) Constructed According to Drawing No. D11726 R/A Drawing Prepared by Anchor/Darling Valve Company

(d) Description of Part Inspected Disc, Heat No. C1788 Material: SA105

(e) Applicable ASME Code Section III, Edition 1980, Addenda date Sum '82 Code No. --- Class 1

3. Remarks: Spare Part for 24"-900#-Exercisable Swing Check Valve, Dwg. 2229-3, Rev. M
(Brief description of service for which component was designed)
S.O. E3039-1; SJO 3020-5, -6; Detroit Edison P.O. NM-279604;
A/DY S.O. P-W102-1
NI; 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 appurtenance is responsible for furnishing a complete Design Specification and Stress Report if the appurtenance is not included in the component Design Specification and Stress Report.)

Date 8-6-93, 19__ Signed Anchor/Darling Valve Co. By Harry A. Larson
(NPT Certificate Holder)

Certificate of Authorization Expires 4/15/95 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/or the State or Province of 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 7-2-93 & 8-4-93, 19__, 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 8-9, 19 93

Signed [signature] Commissions Pennsylvania 2392
Charles Young (National Board, State, Province and No.)

02-007
03-024

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

1. Owner: Detroit Edison Company (Name)
   6400 North Dixie Highway, Newport MI 48166 (Address)
   Date: 5/08/03
   Sheet: 1 of 2
2. Plant: Fermi 2 Nuclear Power Plant (Name)
   6400 North Dixie Highway, Newport MI 48166 (Address)
   Unit: 2
   DECo Maintenance (Repair Organization P.O. No., Job No., etc.)
3. Work Performed by: Detroit Edison Company (Name)
   6400 North Dixie Highway, Newport, MI 48166 (Address)
   Type Code Symbol Stamp: N/A
   Authorization No.: N/A
   Expiration Date: N/A
4. Identification of System: B21Nuclear Boiler, Main Steam Safety Relief Valve Pilot Assemblies, and Base Assemblies
5. (a) Applicable Construction Code: ASME III Class 1 19 71 Edition W'71 Addenda, NA Code Case
   (b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1992, 92 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)
SRV Pilot Assemblies	Target Rock	Various (See attached list)	N/A	B2104F013A-R Various	N/A	Replacement	Yes
SRV Main Body Assemblies	Target Rock	Various (See attached list)	N/A	B2104F013A-R Various	N/A	Replacement	Yes

7. Description of Work: During RF09, Replaced all 15 SRV Pilot Assemblies. Replaced Main Bodies on B2104F013G, H, L & P.
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☒
   Other ☒ Pressure psi Test Temp. _____ °F)

VT-2 Per 43.000.005 and 24.137.21, Operability Test per 24.137.11

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.

(10/94)

9. Remarks Applicable Manufacturer's Data Reports to be attached

All 15 SRV Pilots, and 4 Main Bodies were replaced using station Work Requests B350030100 thru B364010100, Bolting material was changed out on SRV B2103F013H (1) 1-3/8" x 6UNC-2Ax10", SA-193 grade B7, PO# 686576, (2) 13/8" nuts, SA-194, Grade 7, PO# 806420. See attached listing for SRV exchange matrix SRV Pilots were refurbished per Section XI Program 02-001, and Work Request B273060100. The B2104F013J position SRV Reactor side, and Valve side Inlet Flanges were weld repaired due to minor steam cutting using WR#000Z031598 per Section XI Program 03-024.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI.
repair or replacement

Type Code Symbol Stamp Original Code Data Reports to be supplemented by Section XI Program 02-007, 03-024 and TR Field Service Report Number 02Z-010

Certificate of Authorization No. N/A Expiration Date N/A

Signed R. M. Hambleton, ISI Engineer Date MAY. 08 2003
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE 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 Michigan and employed by HSB CT of One State Street, Hartford, CT 06102 have inspected the components described in this Owner's Report during the period 10-03-02 to 05-13-03, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's 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 Owner's 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.

Commissions NB9486 ABINNS MI610
Inspector's Signature National Board, State, Province, and Endorsements

Date May 13, 2003

(10/94)

2003 Refueling Outage SRV Replacement Matrix RF09

Division	PIS Number	Steam Line	Isometric Draing	Code Data Report N-5	Set Point psig-	Work Request	Valve/ Body S/N	Pilot S/N
I (LLS)	B2104F013A	D	M-4095	265	1135	B350030100	389	342
	B2104F013B	C	M-2591	301	1135	B351030100	331	1197
II	B2104F013C	B	M-2594	291	1135	B352030100	391	1184
	B2104F013D	B	M-2593	278	1145	B353030100	328	327
	B2104F013E	C	M2592	309	1155	B354030100	339	336
	B2104F013F	B	M-2596	290	1145	B355030100	327	339
(LLS)	B2104F013G	B	M-2587	321	1135	B357030100	338	1200
	B2104F013H	C	M2588	266	1155	B356030100	336	1199
	B2104F013J	C	M2589	308	1155	B358030100	332	328
	B2104F013K	B	M2595	311	1135	B359030100	330	332
	B2104F013L	A	M-4094	313	1145	B360030100	319	319
	B2104F013M	A	M-2586	268	1145	B361030100	342	1198
	B2104F013N	A	M-4093	310	1145	B362030100	341	330
	B2104F013P	D	M-4096	322	1155	B363030100	318	318
	B2104F013R	C	M-2590	288	1155	B364030100	371	1180
	All 15 SRV Pilots were replaced, and the 4 Shaded Bodies were replaced as well							

02-008

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

1. Owner Detroit Edison Company — Date May 14, 2003
   Name
   6400 North Dixie Highway, Newport MI 48166 — Sheet 1 of 6
   Address
2. Plant Fermi 2 Nuclear Power Plant — Unit 2
   Name
   6400 North Dixie Highway, Newport MI 48166 — DECo Maintenance
   Address — Repair Organization P.O. No., Job No., etc.
3. Work Performed by Detroit Edison Company — Type Code Symbol Stamp N/A
   Name — Authorization No. N/A
   6400 North Dixie Highway, Newport, MI 48166 — Expiration Date N/A
   Address
4. Identification of System Various Component Supports (Mechanical Snubbers)
5. (a) Applicable Construction Code ANSI B31.7 19 69 Articles 1-720 & 1-721 / ANSI B31.1 19 67 Article 121
   (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1992-W'92
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)
PLANT MECHANICAL SNUBBERS	Pacific Scientific	Various	NA	NONE	Various	REPLACEMENTS	N

7. Description of Work Refurbish Mechanical Snubbers for future installation
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
   Other ☒ Pressure _____ psi Test Temp._____ °F Functional test & visual inspection

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 (Back)

9. Remarks Attached are listings of Mechanical Snubbers that were refurbished and changed out during testing activities during RF09.
Applicable Manufacturer's Data Reports to be attached

Note the listing of the Mechanical Snubbers that were refurbished prior to and during RF09 including a listing of parts installed.

Documentation satisfies requirements of Code Case N-508-1 as allowed by Relief Request RR-C4.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this Replacement conforms to the rules of the ASME Code, Section XI. repair or replacement

Type Code Symbol Stamp Original Code Data Reports to be supplemented by owners Section XI Program No. 02-008.

Certificate of Authorization No. N/A Expiration Date N/A

Signed [signature] LEAD ISI ENG Date JULY 25 ,20 03
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE 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 Michigan and employed by HSB CT of One State Street, Hartford, CT 06102 have inspected the components described in this Owner's Report during the period Sept. 06, 2002 to July 25, 2003, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's 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 Owner's 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.

[signature] Commissions MI610
Inspector's Signature National Board, State, Province, and Endorsements

Date July 28 20 03

(12/82)

For complete work package, see Work Request A498030100
A519030100

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02-008
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Mechanical Snubbers Replaced with Rebuilt Spares

Hanger Number	Old Serial	New Serial
B21-2174-G25A	13116	13152
B21-2174-G25B	13151	8496
B21-2589-G02	8990	12809
B21-2590-G04	9855	7016
B21-2593-G07	9856	4708
B21-2595-G07	9016	10340
B21-7195-G01A	12742	19925
B21-7195-G01B	22414	22419
B21-E213-SSA1	4705	9861
B21-E213-SSA3	9877	7018
B21-E213-SSC2	8982	10348
B21-E213-SSC5	11283	8731
B21-E213-SSD1	8716	4713
B31-5064-G24	13163	13204
B31-5065-G39B	12690	22337
B31-5065-G40	11466	12709
B31-5065-G41	22344	12694
B31-5239-G02B	22367	19932
B31-5239-G16	13144	8478
B31-E215-SSB8	4710	9850
C41-2340-G08	6828	13155
C41-2340-G12	13126	13138
C41-2340-G16A	13193	8469
E11-3146-G33	4706	9848
E11-3152-G33	12444	15286
E11-3154-G17	8997	9006
E11-3179-G05	8482	13134
E11-3184-G45	20982	12435
E11-3185-G32A	6187	10345
E11-3519-G14	20974	12447
E11-4004-G01S	12692	22347
E11-4004-G02A	12697	22412
E21-2199-G04	13132	6828
E21-3147-G26	8357	8959
E41-5256-G02	22372	22349
E41-5256-G20SA	12696	19923
E41-5256-G20SB	12677	22458
E41-5256-G20SC	13183	13108
E41-5256-G21	8480	13165
E41-5256-G22S	13133	8474
E51-3174-G09A	8714	9857
G33-3244-G39	12436	15290
G51-4059-G20	23169	18658
N21-3131-G33	8328	9017
N21-3131-G38	9005	9011
N21-3536-G29B	12821	8342
N21-3536-G37	10332	10354
N21-3536-G38A	12798	8985
N21-3536-G38B	12800	8999
N21-3537-G26B	9897	7021
N21-3537-G31	10352	10351

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Mechanical Snubbers Replaced with Rebuilt Spares

Hanger Number	Old Serial	New Serial
N21-3537-G34	11272	8708
N21-3537-G38A	12810	9019
N21-3537-G38B	8984	8961
N30-2186-G03	22401	19934
N30-2186-G04	19940	22357
N30-2186-G05	22342	22341
N30-2186-G07	13142	13169
N30-2186-G09	13112	8501
N30-2186-G10	19919	22436
N30-2186-G11	12739	19917
N30-2186-G15	8491	8470
N30-2186-G16	13129	13180
N30-2186-G17	22395	27916
N30-2186-G18	13128	8497
N30-3259-G29	8710	9847
N30-3259-G49	1589	1588
N30-3259-G55	8723	12792
N30-3259-G57	8747	11281
N30-3259-G76	9889	8748
N30-3259-G81	7019	9843
N30-3526-G46	13170	8495
N30-3526-G48	12993	12750
N30-3526-G54	16235	13195
N30-3526-G55	13141	13157
N30-3526-G57	8493	8486
N30-3526-G58	13175	13184
P11-3156-G05	12684	12715
P11-3566-G11	13143	8510
P34-7405-G02	12741	22372
P34-7405-G07	13195	13109
P42-4357-G22B	12691	22406
P50-2163-G13	22365	12677
P50-2163-G14	12672	12712
P50-3579-G25	22426	19907
T23-I2837-36-G32	22422	22499
T23-I2837-36-G33	22380	22400
T23-I2837-36-G45	22434	12746
T23-I2837-36-G56	22374	12722
T23-I2837-36-G58	22357	22429
T23-I2837-36-G75	11974	12707
T23-I2837-36-G96B	12689	19933
T23-I2837-40-G02A	12712	12738
T23-I2837-40-G02B	12763	22455
T23-I2837-40-G08	18641	21954
T23-I2837-40-G09A	8481	13187
T23-I2837-40-G09B	12757	19898
T23-I2837-41-G05A	13157	8465
T23-I2837-41-G05B	13196	13116
T23-I2837-41-G10A	13130	8466
T23-I2837-41-G17	8487	13181
T23-I2837-42-G03	12771	12733

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Mechanical Snubbers Replaced with Rebuilt Spares

Hanger Number	Old Serial	New Serial
T23-I2837-42-G12B	8486	16224
T23-I2837-42-G14B	22335	12730
T23-I2837-42-G22	22347	19921
T23-I2837-42-G24	8492	13156
T23-I2837-42-G28	13181	13173
T23-I2837-42-G41	22428	12741
T23-I2837-42-G50	13173	13135
T23-I2837-42-G54	12749	22370
T23-I2837-43-G45	8484	8509
T23-I2837-43-G49	12740	12760
T23-I2837-45-G02B	13202	13163
T23-I2837-45-G11A	8508	13131
T23-I2837-45-G12A	13185	13166
T23-I2837-46-G100	13158	13154
T23-I2837-46-G102	22355	12685
T23-I2837-46-G17A	12714	22417
T23-I2837-46-G22	12988	12977
T23-I2837-46-G54	13204	13190
T23-I2837-46-G70	13178	13147
T23-I2837-46-G94D	19918	12764
T23-I2837-48-G12	13111	8468
T23-I2837-51-G141	22411	12743
T23-I2837-51-G142	13108	8506
T23-I2837-51-G144	22439	12725
T23-I2837-51-G19	19911	22459
T23-I2837-51-G28	12715	12768
T23-I2837-51-G29	22386	12724
T23-I2837-51-G33	22403	12751
T23-I2837-51-G61	13201	13153
T23-I2837-51-G62	22375	22340
T48-4061-G08	19577	21950
T48-4062-G05B	22413	19928
T48-5314-G02	22435	22424
T48-5314-G03	13187	8498
T48-5314-G06	12711	12701
T49-5325-G58	13167	8507
T50-7431-G02	12727	22360
T71-I2837-62-G35	12747	22353
T71-I2837-62-G57	22445	12692
T71-I2837-63-G32	13159	13133
T71-I2837-64-G50	22451	22391
T71-I2837-64-G51	13134	8493

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Mechanical Snubbers Rebuilt with New Parts

Serial	Snubber Location	Size	Description	Work Package
22412	E11-4004-G02A	1/4	Ring, Retaining Washer	A498030100
8509	T23-I2837-43-G45	1/2	Torque Carriers & Shaft Assembly Ring, Retaining Rod & Bearing Assembly	A498030100
22419	B21-7195-G01B	1/4	Assy, Rod & Bearing Ring, Retaining Washer	A498030100
12701	T48-5314-G06	1/4	Ring, Retaining Washer	A498030100
12750	N30-3526-G48	1/4	Ring, Retaining	A498030100
9011	N-21-3131-G38	10	Ring, Retaining Washer	A498030100
9017	N21-3131-G33	10	Ring, Retaining Washer Assy, Bearing	A498030100
9012	SPARE	10	Ring, Retaining	A498030100
13154	T23-I2837-46-G100	1/2	Ring, Retaining Washer	A498030100
1588	N30-3259-G49	100	Pin, Cotter Washer Washer, Locking	A498030100
9857	E51-3174-G09A	35	Ball, 0.622 in. Ball, 0.624 in. Pin, Cotter Washer, Locking	A498030100
12792	N30-3259-G55	35	Ball, 0.622 in. Ball, 0.624 in. Pin, Cotter Washer, Locking	A498030100
13147	T23-I2837-46-G70	1/2	Ring, Retaining	A498030100
8507	T49-5325-G58	1/2	Ring, Retaining Washer	A498030100
8495	N30-3526-G46	1/2	Ring, Retaining Washer	A498030100
22424	T48-5314-G02	1/4	Ring, Retaining Washer	A498030100
22340	T23-I2837-51-G62	1/4	Ring, Retaining Washer	A498030100
12707	T23-I2837-36-G75	1/4	Ring, Retaining	A498030100
22436	N30-2186-G10	1/4	Ring, Retaining Anti-Rotation Key Washer	A498030100
12733	T23-I2837-42-G03	1/4	Ring, Retaining	A498030100

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Mechanical Snubbers Rebuilt with New Parts

Serial	Snubber Location	Size	Description	Work Package
19934	N30-2186-G03	1/4	Torque Carriers & Shaft Assembly Ring, Retaining Washer	A498030100
12809	B21-2589-G02	10	Ring, Retaining Retainer, Nut Bearing Assy	A498030100
20972	SPARE	3	Thrust Bearing Kit	A519030100
12450	SPARE	3	Thrust Bearing Kit Bearing Screw Assembly	A519030100
4710	SPARE (Unsat Functional Test)	35	Ball, 0.622 in. Ball, 0.624 in. Pin, Cotter	A519030100
13190	T23-I2837-46-G54	1/2	Retaining Ring	A519030100
19921	T23-I2837-42-G22	1/4	Washer	A519030100
23166	SPARE	1	Washer	A519030100
8469	C41-2340-G16A	1/2	Retaining Ring	A519030100
8470	N30-2186-G15	1/2	Retaining Ring	A519030100
8985	N21-3536-G38A	10	Load Pin Stock Code 482-5682 PO 245779	0963030328
8342	N21-3536-G29B	10	Load Pin From N21-3536-G38A	0963030328
12750	N30-3526-G48	¼	Load Pin Stock Code 482-5679 PO 245776	0963030328
13147	T23-I2837-46-G70	½	Load Pin Stock Code 482-5679 PO 245776	0963030328
113195	N30-3526-G54	½	Load Pin Stock Code 482-5679 PO 245776	0963030328

02-009

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

1. Owner Detroit Edison Company — Date May 14, 2003
   Name
   6400 North Dixie Highway, Newport MI 48166 — Sheet 1 of 7
   Address
2. Plant Fermi 2 Nuclear Power Plant — Unit 2
   Name
   6400 North Dixie Highway, Newport MI 48166 — DECo Maintenance
   Address — Repair Organization P.O. No., Job No., etc.
3. Work Performed by Detroit Edison Company — Type Code Symbol Stamp N/A
   Name — Authorization No. N/A
   6400 North Dixie Highway, Newport, MI 48166 — Expiration Date N/A
   Address
4. Identification of System Various Component Supports (Hydraulic Snubbers)
5. (a) Applicable Construction Code ANSI B31.7 19 69 Articles 1-720 & 1-721
   ANSI B31.1 19 67 Article 121
   (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1992-W'92
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)
PLANT HYDRAULIC SNUBBERS	Power Piping	Various	NA	NONE	Various	REPLACEMENTS	N

7. Description of Work Refurbish Hydraulic Snubbers during testing activities and for future installation
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
   Other ☒ Pressure _____ psi Test Temp._____ °F Functional test & visual inspection

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.

9. Remarks Attached are listings of Hydraulic Snubbers that were refurbished and changed out during testing activities during RF09.
Applicable Manufacturer's Data Reports to be attached

Note the listing of the Hydraulic Snubbers that were refurbished prior to and during RF09 including a listing of parts installed.

Documentation satisfies requirements of Code Case N-508-1 as allowed by Relief Request RR-C4.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this Replacement conforms to the rules of the ASME Code, Section XI. repair or replacement

Type Code Symbol Stamp Original Code Data Reports to be supplemented by owners Section XI Program No. 02-009.

Certificate of Authorization No. N/A Expiration Date N/A

Signed [signature] LEAD IST ENG Date JULY 25, 2003
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE 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 Michigan and employed by HSB CT of One State Street, Hartford, CT 06102 have inspected the components described in this Owner's Report during the period 09-06-02 to 07-29-03, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's 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 Owner's 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.

[signature] Commissions MI 6010
Inspector's Signature National Board, State, Province, and Endorsements

Date July 29, 2003

(12/82)

For complete work package, see Work Request A497030100
A514030100

NIS-2 FOR
± 02-009
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Hydraulic Snubbers Replaced with Rebuilt Spares

Hanger Number	Old Serial	New Serial
N21-3109-G77B	820250	810060
E11-3152-G24	820187	810222
E11-3158-G29	820251	820220
E11-3158-G30	810228	810220
E11-3158-G34	810027	810016
E11-3161-G10	810150	820227
E11-3177-G25	820072	810168
E21-3145-G23	820165	810164
E21-3147-G27	810008	810049
E41-3162-G17	820054	820202
E41-3162-G23	820106	820112
E51-3174-G33	810064	810167
E51-3174-G39	810019	820079
E51-3174-G40	810166	830019
E51-3175-G12	820093	820076
E51-3176-G17	810152	810138
G33-3244-G36A	820129	820083
G33-3244-G36B	810178	820078
G51-4059-G15	820151	810031
T46-3093-G18B	830035	830040
E11-3177-G09	830037	820054

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Hydraulic Snubbers Rebuilt and Re-installed

Hanger Number	Serial Number
N21-3109-G72B	810159
N21-3109-G63A	830033
N21-3109-G63B	820196
N21-3103-G20A	820014
N21-3109-G72A	810092
E11-3184-G15A	810211
E11-3160-G13	820135
E11-3146-G16	830028
E51-3175-G13	820183
E21-3144-G32	820171

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Hydraulic Snubbers Rebuilt with New Parts

Serial	Snubber Number	Size	Description	Work Package
810090	N21-3109-G77B	4x5	Kit, Seal Ring, Piston O-Rings	A497030100
830004	T46-3093-G18B	4x5	Kit, Seal Ring, Piston O-Rings Bar, Flat 1/4" x 2" Angle, 1 x 1 x 1/4 Connector, Male Bearing, Rod Nut Ferrule, Back Ferrule, Front Tubing, 1/4"	A497030100
820202	E41-3162-G17	4x5	Kit, Seal Ring, Piston O-Rings	A497030100
820220	E11-3158-G29	4x5	Kit, Seal O-Rings Ring, Piston	A497030100
810222	E11-3152-G24	2-1/2 x 5	Hex Bolt, 1/4"x20x1 Hex Nut, 1/4"x20 Pipe Nipple Angle Iron 1"x1"x1/4" Flat Bar 3/8"x1" Kit, Seal Ring, Piston O-Rings	A497030100
810049	E21-3147-G27	2x5	Kit, Seal Ring, Piston O-Rings Tube, Cylinder 2"	A497030100
810138	E51-3176-G17	2x5	Bearing, Rod Ring, Piston Kit, Seal O-Rings Angle Iron 1"x1"x1/4"	A497030100
810151	SPARE	2x5	Kit, Seal Ring, Piston O-Ring Elbow 1/4" Angle Iron 1"x1"x1/4"	A497030100
820112	E41-3162-G23	2x5	O-Rings Ring, Piston Kit, Seal	A497030100

Hydraulic Snubbers Rebuilt with New Parts

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Serial	Snubber Number	Size	Description	Work Package
820227	E11-3161-G10	2X5	Kit, Seal Ring, Piston O-Rings	A497030100
810167	E51-3174-G33	1-1/2 X 5	O-Rings Ring, Piston Kit, Seal	A497030100
810164	E21-3145-G23	1-1/2 X 5	Kit, Seal Ring, Piston O-Rings	A497030100
810031	G51-4059-G15	1-1/2" x 5	Kit, Seal O-Rings Ring, Piston	A497030100
820066	SPARE	1-1/2" x 5	O-Rings Ring, Piston Kit, Seal	A497030100
820079	E51-3174-G39	1-1/2 x 5	Kit, Seal Ring, Piston O-Rings	A497030100
830019	E51-3174-G40	1-1/2" X 5	Kit, Seal Ring, Piston O-Rings	A497030100
810016	E11-3158-G34	2-1/2 X 5	Kit, Seal Ring, Piston O-Rings	A497030100
810220	E11-3158-G30	2-1/2 X 5	Hex Bolt 1/4"x1 Hex Nut 1/4" Angle Iron 1x1x1/4 Flat Bar 1/4x2 SS Tubing 1/4" SS Nut (Tubing) 1/4" SS Front Ferrule 1/4" SS Back Furrule 1/4" Pipe Nipple Kit, Seal Ring, Piston O-Rings	A497030100
820078	G33-3244-G36B	1-1/2 x 5	O-Rings Ring, Piston Kit, Seal Valve Block (SN#820164)	A497030100
820083	G33-3244-G36A	1-1/2" x 5	Kit, Seal Ring, Piston O-Rings	A497030100
810168	E11-3177-G25	1-1/2 x 5	Kit, Seal Ring, Piston O-Rings	A497030100

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02-009
6 of 7

Hydraulic Snubbers Rebuilt with New Parts

Serial	Snubber Number	Size	Description	Work Package
820082	SPARE	2x5	O-Rings Ring, Piston Kit, Seal	A497030100
810159	N21-3109-G72B	4x5	Kit, Seal Ring, Piston O-Rings Sight Glass Assembly	A514030100
820196	N21-3109-G63B	4x5	Kit, Seal Rings, Piston O-rings	A514030100
820014	N21-3103-G20A	4x5	Kit, Seal Rings, Piston O-rings	A514030100
810092	N21-3109-G72A	4x5	Kit, Seal Rings, Piston O-rings	A514030100
830037	SPARE	4x5	Kit, Seal Rings, Piston O-rings	A514030100
820076	E51-3175-G12	1-1/2 x 5	Kit, Seal Rings, Piston O-rings	A514030100
810211	E11-3184-G15A	2x5	Hex Bolt, 1/4"x20x1 Hex Nut, 1/4"x20 Pipe Nipple Angle Iron 1"x1"x1/4" Flat Bar 3/8"x1" Kit, Seal Ring, Piston O-Rings	A514030100
820135	E11-3160-G13	2x5	Kit, Seal Ring, Piston O-Rings	A514030100
830028	E11-3146-G16	5x5	Kit, Seal Ring, Piston O-Rings Angle Iron ¼"x1/4"x9"	A514030100
820183	E51-3175-G13	2x5	Kit, Seal Ring, Piston O-Rings	A514030100
820171	E21-3144-G32	1-1/2"x5	Kit, Seal Ring, Piston O-Rings	A514030100
830033	N21-3109-G63A	4x5	Kit, Seal Ring, Piston O-Rings	A514030100

NIS-2 FOR #02-009
7 OF 7

Hydraulic Snubbers Rebuilt with New Parts

Serial	Snubber Number	Size	Description	Work Package
820054	E11-3177-G09	4x5	Hex Bolt, 1/4"x20x1 Hex Nut, 1/4"x20 Angle Iron 1"x1"x1/4" Flat Bar 3/8"x1" Kit, Seal Ring, Piston O-Rings	A514030100

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

1. Owner: Detroit Edison Company (Name) — Date: 2-15-2003
   6400 North Dixie Highway, Newport MI 48166 (Address) — Sheet: 1 of 2
2. Plant: Fermi 2 Nuclear Power Plant (Name) — Unit: 2
   6400 North Dixie Highway, Newport MI 48166 (Address) — Deco Maintenance (Repair Organization P.O. No., Job No., etc.)
3. Work Performed by: Detroit Edison Company (Name) — Type Code Symbol Stamp: N/A; Authorization No.: N/A; Expiration Date: N/A
   6400 North Dixie Highway, Newport, MI 48166 (Address)
4. Identification of System: T & B N5-5 Diesel Generator Service Water – Division 1 (EDG – 11)
5. (a) Applicable Construction Code: ASME III, Class 3 19 71 Edition W '71 Addenda, N/A Code Case
   (b) Applicable Edition/Addenda of Section XI Utilized for Repairs or Replacements: 1992- W' '92 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)
R3000F142A	Wm. Powell	66171-8	N/A	V15-2096	1976	Replacement	Yes

7. Description of Work: Installed a replacement Stainless Steel Alloy Disc in Check Valve R3000F142A.
8. Tests Conducted: Hydrostatic [ ] Pneumatic [ ] Nominal Operating Pressure [X]
   Other [ ] Pressure _____ psi Test Temp._____ °F

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 (Back)

9. Remarks Replacement Disc procurred per Purchase Order Number 350277, SA 217- Gr. CA15, Serial No. CM8990B.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of theASME Code, Section XI.

Type Code Symbol Stamp Original Code Data report N5-5 (T & B) to be supplemented by Owners Section XI Program Plan 02-010 and Work request #000Z021705.

Certificate of Authorization No. N/A Expiration Date N/A

Signed R.M. Hambleton Lead ISI Engineer Date July 9 ,20 03
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE 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 Michigan and employed by HSB CT of One State Street, Hartford, CT 06102 have inspected the components described in this Owner's Report during the period Dec. 23, 2002 to July 9, 2003, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's 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 Owner's 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.

Commissions MI 6010
Inspector's Signature National Board, State, Province, and Endorsements

Date July 9 20 03

(10/94)

NIS-2
02-010
sheet 1 of 2

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

As Required by the Provisions of the ASME Code Rules, Section III, Div. 1

PO #350277

1. (a) Manufactured by The Wm. Powell Company, 3233 Colerain Avenue, Cincinnati, OH 45225
(Name and address of NPT Certificate Holder)

(b) Manufactured for Detroit Edison, 6400 Dixie Highway, Newport, MI 48166
(Name and addres of N Certificate Holder for completed nuclear component)

2. Identification-Certificate Holder's Serial No. Part CM 8990B Nat'l Bd. No. N/A CRN No. N/A

(a) Constructed According to Drawing No. P/N 26-085524-15002-00 Drawing Prepared by The Wm. Powell Co.

(b) Description of Part Inspected 1 - Disc for 8" Figure 3061 Check Valve

(c) Applicable ASME Code: Section III, Edition 1971 ; Addenda date Winter 71 ; Case No. N/A Class 3

3. Remarks:
(Brief description of service for which component was designed.)

Item 4-8 inclusive to be completed for single wall vessels, jackets of jacketed vessels, or shells of heat exchangers.

4. Shell: Material (Kind & Spec. No.) T.S. (Min. of range specified) Nom. Thk. in. Corr. Allow. in. Diam. ft. in. Length ft. in.

5. Seams: Long H.T.[1] R.T. Efficiency %
Girth H.T.[1] R.T. No. of Courses

6. Heads: (a) Material T.S. (b) Material T.S.

	Location (top, bottom, ends)	Thickness	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diam.	Side to Pressure (convex or concave)
(a)									
(b)									

If removable, bolts used (Material Spec. No., T.S., Size, Number) Other fastening (Describe or attach sketch)

7. Jacket Closure:
(Describe as ogee and weld, bar, etc. If bar, give dimensions, if bolted, describe or sketch)

8. (a) Design Pressure[2] psi at °F (b) Min. Pressure-Test Temp. °F

Items 9 and 10 to be completed for tube sections.

9. Tube Sheets: Stationary: Material (Kind & Spec. No.) Diam. (Subject to pres.) in. Thk. in. Attachment (Welded, bolted)
Floating: Material Diam in. Thk. in. Attachment

10. Tubes: Material O.D. in. Thk. in. or gage Number Type (Straight or U)

Items 11-14 inclusive to be completed for inner chambers of jacketed vessels or channels of heat exchangers.

11. Shell: Material (Kind & Spec. No.) T.S. (Min. of range specified) Nom. Thk. in. Corr. Allow. in. Diam. ft. in. Length ft. in.

12. Seams: Long H.T.[1] R.T. Efficiency %
Girth H.T.[1] R.T. No. of Courses

13. Heads: (a) Material T.S. (b) Material T.S.

Location	Thickness	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diam.	Side to Pressure (convex or concave)
(a) Top, bottom, ends								
(b) Channel								

If removable, bolts used (a) (b) (c) Other fastening (Describe or attach sketch)

14. (a) Design Pressure[2] psi at °F (b) Min. Pressure-Test Temp. °F

[1] If postweld heat-treated. [2] List other internal or external pressures with coincident temperature when applicable.

*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 and 2 of this Data Report is included on each sheet; and (3) each sheet is numbered and number of sheets is recorded in item 3, *Remarks*.

FORM N-2 (Back)

Items below to be completed for all vessels where applicable.

15. Safety Valve Outlets: Number _____ Size _____ Location _____

16. Nozzles:

Purpose (inlet, outlet, drain)	Number	Diam. or Size	Type	Material	Thickness	Reinforcement Material	How Attached

17. Inspection Openings: Manholes: No. _____ Size _____ Location _____
Handholes: No. _____ Size _____ Location _____
Threaded: No. _____ Size _____ Location _____

18. Supports: Skirt _____ (Yes or no) Lugs _____ (Number) Legs _____ (Number) Other _____ (Describe) Attached _____ (Where & how)

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 Design 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 Design Report if the appurtenance is not included in the component Design Specification and Design Report.)

Date March 21, 2002 Signed The Wm. Powell Co. (NPT Certificate Holder) By Gerald Gore

Certificate of Authorization Expires 12/13/03 Certificate of Authorization No. N1579

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 the State or Province of Ohio and employed by H.S.B.C.T. of Hartford, CT have inspected the part of a pressure vessel described in this Partial Data Report on 3-28, 02 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 3-28, 02

_____ Inspector's Signature

Commissions OHIO COMM. National Board, State, Province and No.

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

1. Owner: Detroit Edison Company (Name) — Date: July 25, 2003
   6400 North Dixie Highway, Newport MI 48166 (Address) — Sheet: 1 of 3
2. Plant: Fermi 2 Nuclear Power Plant (Name) — Unit: 2
   6400 North Dixie Highway, Newport MI 48166 (Address)
   Repair Organization P.O. No., Job No., etc.: Deco Maintenance
3. Work Performed by: Detroit Edison Company (Name) — Type Code Symbol Stamp: N/A
   6400 North Dixie Highway, Newport, MI 48166 (Address) — Authorization No.: N/A — Expiration Date: N/A
4. Identification of System: N5-020 (T&B) Diesel Generator Service water System
5. (a) Applicable Construction Code: ASME III, Class 3 19 71 Edition '71 Addenda N/A Code Case
   (b) Applicable Edition/Addenda of Section XI Utilized for Repairs or Replacements: 1992-92 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)
R3000F142D	Wm. Powell	66171-7	N/A	V15-2078	1976	Replacement	Y

7. Description of Work: Install replacement Stainless Steel Alloy Disc in check valve to minimize wear of disc post
8. Tests Conducted: Hydrostatic [ ] Pneumatic [ ] Nominal Operating Pressure [X]
   Other [ ] Pressure _____ psi Test Temp._____

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.

(10/94)

Form NIS-2 (Back)

9. Remarks: Replacement Plug/Stem assembly procured per PO#357727-1, Serial No. CM 9037B . Disc was repaired by manufacturer prior to installation due to defective threads. (Reports Attached).

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this Replacement conforms to the rules of theASME Code, Section XI.

Type Code Symbol Stamp Original Code data report N5-020 (T&B) supplemented by Owners Section XI Program 02-012

Certificate of Authorization No. N/A Expiration Date N/A

Signed R.M. Hambleton Lead ISI Engineer Date July 25 20 03
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE 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 Michigan and employed by HSB CT of One State Street, Hartford, CT 06102 have inspected the components described in this Owner's Report during the period July 7, 03 to July 30, 03, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's 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 Owner's 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.

Commissions MI 6010
Inspector's Signature National Board, State, Province, and Endorsements

Date July 30 20 03

(10/94)

For complete work package, see Work Request R303020100

N-2 FOR E1100H42
SECTION XI 02-012
2 OF 3
(1)

FORM N-2 CERTIFICATE HOLDERS' DATA REPORT FOR IDENTICAL NUCLEAR PARTS AND APPURTENANCES*

As Required by the Provisions of the ASME Code, Section III

Not to Exceed One Day's Production

1. Manufactured and certified by The Wm. Powell Company, 3233 Colerain Avenue, Cincinnati, OH 45225
(name and address of NPT Certificate Holder)

2. Manufactured for Detroit Edison, P.O. Box 1659, Detroit, MI 48231
(name and address of purchaser)

3. Location of installation EF 2 Site, 6400 Dixie Highway, Newport, MI 48166
(name and address)

4. Type 26-085524-15002-00 (drawing no.) ASME SA217 CA15 (mat'l spec. no.) 111.6 (tensile strength) N/A (CRN) 2002 (year built)

5. ASME Code, Section III, Division 1: 1971 (edition) Winter 1971 (addenda date) 3 (class) N/A (Code Case no.)

6. Fabricated in accordance with Const. Spec. (Div. 2 only) _____ (no.) Revision _____ Date _____

7. Remarks: Valve Tag V15-2071

8. Nom. thickness (in.) _____ Min. design thickness (in.) _____ Dia. ID (ft & in.) _____ Length overall (ft & in.) _____

9. When applicable, Certificate Holders' Data Reports are attached for each item of this report:

	Part or Appurtenance Serial Number	National Board No. in Numerical Order
(1)	CM 9037B	N/A
(2)		
(3)		
(4)		
(5)		
(6)		
(7)		
(8)		
(9)		
(10)		
(11)		
(12)		
(13)		
(14)		
(15)		
(16)		
(17)		
(18)		
(19)		
(20)		
(21)		
(22)		
(23)		
(24)		
(25)		

	Part or Appurtenance Serial Number	National Board No. in Numerical Order
(26)		
(27)		
(28)		
(29)		
(30)		
(31)		
(32)		
(33)		
(34)		
(35)		
(36)		
(37)		
(38)		
(39)		
(40)		
(41)		
(42)		
(43)		
(44)		
(45)		
(46)		
(47)		
(48)		
(49)		
(50)		

10. Design pressure _____ psi. Temp. _____ °F. Hydro. test pressure _____ (when applicable) at temp. °F

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

Certificate Holder's Serial Nos. _____ through _____

CERTIFICATION OF DESIGN

Design specifications certified by _____ (when applicable) P.E. State _____ Reg. no. _____

Design report* certified by _____ (when applicable) P.E. State _____ Reg. no. _____

CERTIFICATE OF COMPLIANCE

We certify that the statements made in this report are correct and that this (these) disc conforms to the rules of construction of the ASME Code, Section III, Division 1.

NPT Certificate of Authorization No. N1579 Expires 12/13/03

Date 10/10/02 Name The Wm. Powell Co., Plant 2 (NPT Certificate Holder) Signed Gerald Crowe (authorized representative)

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 Ohio and employed by H.S.B.C.T. of Hartford, CT have inspected these items described in this Data Report on 10/22/02, and state that to the best of my knowledge and belief, the Certificate Holder has fabricated these parts or appurtenances in accordance with the ASME Code, Section III, Division 1. Each part listed has been authorized for stamping on the date shown above.

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 loss of any kind arising from or connected with this inspection.

Date 10/22/02 Signed Patrick J. Donavon (Authorized Nuclear Inspector) Commissions NB #10601 N (Nat'l. Bd. (incl. endorsements) and state or prov. and no.)

FORM NR-1 REPORT OF REPAIR ☒ MODIFICATION ☐ OR INSTALLATION OF REPLACEMENT(S) ☐ TO NUCLEAR COMPONENTS AND SYSTEMS IN NUCLEAR POWER PLANTS

1. Work performed by The Wm. Powell Company (name) Powell Order 814222 (repair organization's P.O. no., job no., etc.)
   3233 Colerain Avenue Cincinnati, OH 45225 (address)
2. "NR" Certificate no. N1579 Expiration date 12/13/03
3. Owner Detroit Edison (name)
   2000 Second Avenue Detroit, MI 48226 (address)
4. Name and identification of nuclear power plant Enrico Fermi 2
5. Address of nuclear power plant 6400 Dixie Highway Newport, MI 48166
6. Identification of system
7. a: Identification of component repaired, modified or replaced 1 - Disc for 8" Figure 3061 Check Valve
   b: Name of manufacturer The Wm. Powell Company
   c: Identifying nos. CM 9037B (mfr.'s serial no.) N/A (Nat'l. Bd. no.) N/A (jurisdictional no.) N/A (other) 2002 (year built)
8. Applicable section(s) III of ASME Code, 19 71 edition Winter 71 addenda N/A Code Case Class 3
9. Design responsibilities The Wm. Powell Company
10. Tests conducted: hydrostatic ☐ pneumatic ☐ design pressure ☐ pressure _____ psi.
11. Description of work Welded up and machined threads to correct dimensional problems (use of additional sheet(s) or sketch(es) is acceptable if properly identified)
12. Remarks:

CERTIFICATE OF COMPLIANCE

We certify that the statements made in this report are correct and that all design, material and workmanship on this repair (repair, modification or replacement) conforms to the applicable section of the ASME Code.

Signed Gerald Grove (authorized representative of repair organization) Gerald Grove Quality Manager (title) 2/14/03 (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 Ohio by H.S.B.CT of Hartford, CT have inspected the repair, modification or replacement described in this report on 2/14, 19~~03~~ 2003 and state that to the best of my knowledge and belief, this repair, modification or replacement has been made or constructed in accordance with the applicable section of the ASME Code. By signing this certficiate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the repair, modification or replacement described in this report. Futhermore, 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 2/14/03 Signed Patrick T Sovoa (Authorized Inspector) Commissions NB comm (state or province, National Board)

This form may be obtained from The National Board of Boiler and Pressure Vessel Inspectors, 1055 Crupper Ave., Col's., OH 43229

NB-81
Rev. 3

P.O. 357727

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

1. Owner: Detroit Edison Company (Name) — Date: October 3, 2002
   6400 North Dixie Highway, Newport MI 48166 (Address) — Sheet: 1 of 2
2. Plant: Fermi 2 Nuclear Power Plant (Name) — Unit: 2
   6400 North Dixie Highway, Newport MI 48166 (Address)
   Deco Maintenance (Repair Organization P.O. No., Job No., etc.)
3. Work Performed by: Detroit Edison Company (Name) — Type Code Symbol Stamp: N/A
   6400 North Dixie Highway, Newport, MI 48166 (Address) — Authorization No.: N/A — Expiration Date: N/A
4. Identification of System: T & B N5-4 and 21 - Emergency Equipment Service Water System Division 1
5. (a) Applicable Construction Code: ASME III, Class 3 19 71 Edition Winter 1971 Addenda, N/A Code Case
   (b) Applicable Edition/Addenda of Section XI Utilized for Repairs or Replacements: 1992-92 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)
P45F400	Target Rock	1	N/A	V30-1033	2000	Replaced	Y
P45F400	Target Rock	4	N/A	V30-1276	2002	Replacement	Y

7. Description of Work: Remove existing valve for testing and install replacement valve in system. Send valve off site for testing.
8. Tests Conducted: Hydrostatic [ ] Pneumatic [ ] Nominal Operating Pressure [X]
   Other [ ] Pressure _____ psi Test Temp. _____ °F

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 (Back)

9. Remarks: Replacement Valve procurred per P.O. #371566, Serial No. 4.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this Replacement conforms to the rules of theASME Code, Section XI.

Type Code Symbol Stamp Original Code Data report T-3 4/21 to be supplemented by Owners Section XI Program #02-014

Certificate of Authorization No. N/A Expiration Date N/A

Signed R.M. Hambleton Lead ISI Engineer Date OCTOBER 7, 2002
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE 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 Michigan and employed by HSB CT of One State Street, Hartford, CT 06102 have inspected the components described in this Owner's Report during the period 8-8-02 to 10-7-02, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's 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 Owner's 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.

Commissions NB9486 NEASGIS MI010
Inspector's Signature
National Board, State, Province, and Endorsements

Date Oct. 7 2002

(10/94)

For complete work package, see Work Request 000Z011314

NIS-2 FOR
SECTION XI-02-014
SHEET 2 OF 2

FORM NPV-1 CERTIFICATE HOLDERS' DATA REPORT FOR NUCLEAR PUMPS OR VALVES*
As Required by the Provisions of the ASME Code, Section III, Division 1

1. Manufactured and certified by Target Rock; 1966E Broadhollow Road; E. Farmingdale, NY 11735
(name and address of N Certificate Holder)

2. Manufactured for Detroit Edison; 6400 North Dixie Hwy.; Newport, MI
(name and address of Purchaser)

3. Location of installation Enrico Fermi 2; 6400 North Dixie Hwy.; Newport, MI
(name and address)

4. Model No., Series No., or Type 99Z510-001 Drawing 99Z510-001 Rev. E CRN N/A

5. ASME Code, Section III, Division 1: 1989 (edition) None (addenda date) 3 (class) None (Code Case no.)

6. Pump or valve Valve Nominal inlet size 2 (in.) Outlet size 3 (in.)

7. Material: Body SA105 Cap SA105 Disc SA564 630 Bolting N/A

(a) Cert. Holder's Serial No.	(b) Nat'l Board No.	(c) Body Serial No.	(d) Cap Serial No.	(e) Disc Serial No.
3	N/A	114	5	4
4		113	4	5
N/A		N/A	N/A	N/A

* Supplemental information in form of lists, sketches, or drawings may be used provided (1) size is 8½ x 11, (2) information in items 1 through 4 on this Data Report is included on each sheet, (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

(12/88) This form (E00037) may be obtained from the Order Dept., ASME, 22 Law Drive, Box 2300, Fairfield, NJ 07007-2300 REPRINT 6/93

FORM NPV-1 (BACK - Pg. 2 of 2)

Certificate Holder's Serial No. 3 & 4

8. Design conditions 175 (pressure) psi 125 (temperature) °F or valve pressure class N/A (1)

9. Cold working pressure 285 psi at 100 °F

10. Hydrostatic test 450 psi. Disc differential test pressure N/A psi

11. Remarks:

CERTIFICATION OF DESIGN

Design Specification certified by Lawrence D. Burr P.E. State MI Reg. No. 33999

Design Report certified by Not Applicable P.E. State - Reg. No. -

CERTIFICATE OF COMPLIANCE

We certify that the statements made in this report are correct and that this pump or valve conforms to the rules for construction of the ASME Code, Section III, Division 1.
N Certificate of Authorization No. N-1947 Expires 12/12/2004

Date 7/25/2007 Name Target Rock (N Certificate Holder) Signed R.E. Glazier, QA Manager (authorized representative)

CERTIFICATE OF INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State of Province of New York and employed by OneBeacon America Ins. Co. of Boston, MA have inspected the pump, or valve, described in this Data Report on 7/25/2007 and state that to the best of my knowledge and belief, the Certificate Holder has constructed this pump, or valve, in accordance with the ASME Code, Section III, Division 1.

By signing this certificate, neither the inspector nor his employer makes any warranty, expressed or implied, concerning the component 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 7/25/07 Signed (Authorized Inspector) Commissions NY 26669 NB632 (Nat'l. Bd. (incl. endorsements) and state or prov. and no.)

(1) For manually operated valves only.

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

1. Owner: Detroit Edison Company (Name) — Date: 2-11-2003
   6400 North Dixie Highway, Newport MI 48166 (Address) — Sheet: 1 of 37
2. Plant: Fermi 2 Nuclear Power Plant (Name) — Unit: 2
   6400 North Dixie Highway, Newport MI 48166 (Address) — Deco Maintenance (Repair Organization P.O. No., Job No., etc.)
3. Work Performed by: Detroit Edison Company (Name) — Type Code Symbol Stamp: N/A; Authorization No.: N/A; Expiration Date: N/A
   6400 North Dixie Highway, Newport, MI 48166 (Address)
4. Identification of System: (N5-J120-N5-1) Control Dod Drive System
5. (a) Applicable Construction Code: ASME III, Class 1 19 71 Edition Winter 1971 Addenda, N/A Code Case
   (b) Applicable Edition/Addenda of Section XI Utilized for Repairs or Replacements: 1992- W '92 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)
Control Rod Drive Mechanisms	General Electric	Various	N/A	C1102D@	Various	Replacement	Yes

7. Description of Work: Refurbish Control Rod Drive Mechanisms for installation in RF09.
8. Tests Conducted: Hydrostatic [ ] Pneumatic [ ] Nominal Operating Pressure [ ]
   Other [X] Pressure _____ psi Test Temp._____ °F

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.

9. Remarks Refurbished Control Rod Drive Mechanisms for Installation in RF-09. Replacement parts were procured per various Purchase Orders as detailed on attached sheets. Copies of available Code Data Reports are attached.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of theASME Code, Section XI.

Type Code Symbol Stamp Original Code Data Reports for each Control Rod Drive will be supplemented by Owners Section XI Program Plan 02-015 and various work requests as listed on attached Sheet 2. For tracking purposes CRDM information will be maintained in N5-J120-N5-1

Certificate of Authorization No. N/A Expiration Date N/A

Signed R.M. Hambleton Lead ISI Engineer Date FEBRUARY 13 2003
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE 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 Michigan and employed by HSB CT of One State Street, Hartford, CT 06102 have inspected the components described in this Owner's Report during the period 8-8-02 to 02-18-03, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's 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 Owner's 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.

Commissions NB9486 ABINMS MI010
Inspector's Signature National Board, State, Province, and Endorsements

Date Feb. 18 2003

(10/94)

Serial No.	Rebuild WR	(1) Cylinder Tube/ Flange (480-8571)	Piston Tube (482-5312)	Other ASME Parts
4558	000Z991677	#5545, PO# 266443	#1641, PO#314467 (2)	None
4524	000Z991706	-	#0363, PO# 287926	None
4580	000Z991691	#6507, PO# 266443	#1722, PO# 314467 (2)	None
3180	000Z991687	-	#3023, PO# 314467 (2)	None
3931	000Z003983	#6180, PO# 266443	#1855, PO# 314467 (2)	None
4362	000Z991694	#5423, PO# 266443	#1410, PO# 314467 (2)	None
4508	000Z003990	#5752, PO# 266443	#0307, PO# 287926	None
4408	000Z003997	-	-	Ring Flange Cap Screws #480-9052 (3)
4512	000Z991683	-	#0333, PO # 287926	None
4006	000Z991696	-	#2877, PO# 314467 (2)	None
4307	000Z003999	#6387, PO# 266443	#1380, PO# 314467 (2)	None
5950	000Z012225	-	-	None
3954	000Z991700	#5770, PO# 266443	#3062, PO# 314467 (2)	None
4092	000Z955551	#6086, PO# 266443	#0637, PO# 295214	None
4511	000Z003987	#6125, PO# 266443	#2074, PO# 314467 (2)	None
4569	000Z991679	-	#0378, PO# 287926	None
4526	000Z991681	-	-	None
3152	000Z991704	-	-	None
4406	000Z991689	-	-	None
3528	000Z003995	#5451, PO# 266443	-	None
6475	000Z991702	-	-	None
6412	000Z991675	-	-	None
4590	000Z991698	-	#1374, PO# 314467 (2)	None
3339	000Z991685	-	#1709, PO# 314467 (2)	None

1) Replacement Cylinder Tube/Flange assemblies were utilized from Shoreham Nuclear Station Control Rod Drive Mechanisms that were procured per P.O. 266443. Product Quality Certifications were supplied, however, manufacturers data reports were not supplied with these items. The CRDM's obtained were disassembled and inspected and the usable parts were put into the Fermi stock system.

2) Piston Tube Stock No. 480-8699

3) Replaced Ring Flange Cap Screws with those from Shoreham drive Serial Number 6261,PO# 266443. Also reference CARD 02-14887

Page 1 of 2

CERTIFICATE HOLDER'S DATA REPORT FOR NUCLEAR PART AND APPURTENANCES

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

1. (a) Manufactured by General Electric Co., Castle Hayne Rd., Wilmington, N.C.
(Name and address of NPT Certificate Holder)

(b) Manufactured for STOCK
(Name and address of N Certificate Holder for component or appurtenance)

2. Manufacturer's Serial No. of Part 1641 Nat'l Bd. No.

(a) Constructed according to Drawing No. 729D928G010 Drawing Prepared by D. L. Peterson

(b) Description of Part Inspected Piston Tube Assembly

(c) Applicable ASME Code: Section III, Edition 1971, Addenda date S'73, Case No. —, Class 1

3. Remarks Standard part for use with reactor.
(Brief description of variance for which requirement was designed)

Hydrostatically tested at 1825 psi.

NOTE: This Piston Tube Assembly was Hydrostatically

4. Number of Sheets - 2 Tested in Control Rod Drive S/N: 8291

We certify that the statements made in this report are correct and this vessel part or appurtenance is 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 appurtenance is responsible for furnishing a design Design Specification and Stress Report if the appurtenance is not covered by the component Design Specification and Stress Report.)

Date 9/27 19 84 Signed GE-NCPD-NPO By J. Stradinger
(NPT Certificate Holder)

Certificate of Authorization Expires June 16, 1987 Certificate of Authorization No. NPT N-1151

CERTIFICATION OF DESIGN FOR APPURTENANCE (when applicable)

Design information on file at GENERAL ELECTRIC CO., SAN JOSE, CALIF.

Stress analysis report on file at GENERAL ELECTRIC CO., SAN JOSE, CALIF.

Design specifications certified by Vernon W. Pence Prof. Eng. State Calif. Reg. No. 14488

Stress analysis report certified by Vernon W. Pence Prof. Eng. State Calif. Reg. No. 14488

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 or Province of North Carolina and employed by Department of Labor of State of North Carolina have inspected the part of a pressure vessel described in this Certificate Holder's Data Report on 9/27 19 84 and state that to the best of my knowledge and belief, the 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 inspected. 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 9/27 19 84

N.C. 723,PA.WC1766, OHIO

Commissions
(National Board, State, Province and No.)

This form (E00042) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, N.Y. 10017

SN# 1641

Page 2 of 2

...DATA REPORT FOR NUCLEAR PARTS AND APPURTENANCES...
...Boilers and Pressure Vessels Code, Section III, Div. 1

...General Electric Company, Cuyahoga Heights, Cleveland, Ohio

...Manufactured for STOCK

2. Identification of Nuclear Parts Covered by this Data Report: 1641

(a) Combined Drawing or Drawing No. 729D228G10 Drawing Prepared by D. L. Peterson

(b) Description of Part Covered: Piston Tube Assembly

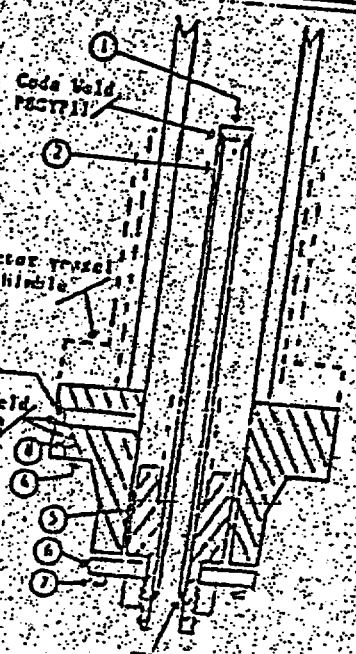
(c) Applicable ASME Code Section III, Edition 1971, Addenda, Date S'73, Code Case, Class 1

3. Nuclear Pressure Retaining part for use with Reactor. Hydrostatically tested at 1825 psi

4. NOTE: THIS PISTON TUBE ASSEMBLY WAS HYDROSTATICALLY TESTED IN CONTROL ROD DRIVE S/N: 8291

5.

1. Cap 187A2343P1 (187A2343) SA182-F304 3/8 thick x 1-1/16 OD
2. Indicator Tube 104B1336P2 SA312-TP316 3/4 sch 40-seam, as pipe 0.113 wall thickness 1.065 nom. dia.
3. Flange 159A1178P1 SA182-F304 1/4 thick x 0.512 OD
4. Flange 919D610P1 (719D274) SA182-F304 3.27 thick x 9 5/8 OD Stock 1 1/16 thick x 5.0 OD 2.673 ID
5. Seal 729B337P1 SA182-F304 3/8 thick x 2.875 Dia.
6. Ring Flange 11-8512ZP2 SA182-F304 Stock thick x 4.0 OD x 1.7 ID
7. Flange 11[illegible] [illegible] dia & 1/8 bolt circle [illegible]P1 [illegible] x 2.2[illegible]



SN # 1641

02-015
E-P2-1

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. Manufactured & Certified by : General Electric Company Nuclear Energy (GE-NE)
3901 Castle Hayne Road, Wilmington, North Carolina 28401
(Name and Address of NPT Certificate Holder)

(b) Manufactured for : Fermi-2 Newport Michigan 48166
(Name and Address of N Certificate Holder for completed nuclear component)

2. Identification - Certificate Holder's S/N of Part : 0363 Nat'l Bd. No. : N/A

(a) Constructed Accordi j to Drawing No: 788D228G012 Rev 35 Dwg. Prepared by D. L. Fenton

(b) Description of Part Inspected: Piston Tube Assembly

(c) Applicable ASME Code: Section III , Edition 1974 , Addenda Date W75 , Case No. 1361-2 Class 1

3. REMARKS: Standard part for use with Reactor. Hydrostatically tested at 1825 psi min.
(Brief description of service for which component was designed)

Sheet 1 of 1

We certify that the statements 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 Designed Specification and Stress Report are not the responsibility of the NPT Certificate Holder for parts. An NPT Certification Holder for appurtenances is responsible for furnishing a separate Design ecification and Stress Report if the appurtenance is not included in the component Design Specification and Stress Report).

Date: 01/16/96 Signed GE-NE By
(NPT Certificate Holder) (QC Representative)

Certificate of Authorization Expires: 6/16/96 Certification of Authorization No. : NPT N-1151

Certification of Design for Appurtenance

Design information on file at GE Company, San Jose, California

Stress analysis report on file at GE Company, San Jose, California

DC22A5253 Rev. 2
Design specification certified by B.N. Sridhar Prof. Eng. State Calif. Reg. No. 16345

DC22A5254 Rev 1
Stress analysis report certified by Edward Yoshio Prof. Eng. State Calif. Reg. No. M018646

Certification of Shop Inspection

I, the undersigned, holding a valid commission by the National Board of Boiler and Pressure Inspectors and/or the State or Province of North Carolina and employed by Department of Labor of State of North Carolina have inspected the part of a pressure vessel described in this Partial Data Report on 1/15 - 1/22 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 the Partial Data Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damages or a loss of any kind arising from or connected with this inspection.

1/16, 1996 Jerome P Ewen NC 1231, Ohio, WC 38.5 PA
Date Inspector's Signature National Board, State, Province and No.

*Supplemental sheets in form of lists, sketches or drawing may be used provided (1) size is 8-1/2" x 11", (2) information in 1-2 on this Data Report is included on each sheet, and (3) each sheet is numbered and number of sheets is recorded in Item 3. "REMARKS".

(c/m)

FORM U-2 (back)

Items 4-8 Incl. to be completed for single wall vessels, jackets vessels, or shells of heat exchangers

4. Shell: Material _____ T.S. _____ Nominal Thickness ___ in. Corrosion Allowance ___ in. Dia. ___ ft. ___ in. Length ___ ft. ___ in.
(Kind & Spec. No.) (Min. of Range Specified)

5. Seams: Long _____ H.T.[1] _____ R.T. _____ Efficiency _____
Girth _____ H.T.[1] _____ R.T. _____ No. of Courses _____

6. Heads: (a) Material _____ T.S. _____ (b) Material _____ T.S. _____

	Location (Top Bottom, Ends)	Thickness	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Press. (conv. or conc.)
(a)									
(b)									

If removable, bolts used _____ (Material, Spec. No., T.S. Size Number) Other fastening _____ (Describe or attach sketch)

7. Jacket Closure: _____
(Describe as ogee and weld, lap, etc. If bar give dimensions, if bolts, describe or sketch)

Drop Weight _____
Charpy Impact _____ ft. lb.

8. Design pressure[2] 1250 psi at 575 °F at temp of _____

Items 9 and 10 to be completed for tube sections

9. Tube Sheets: Stationary. Material _____ (Kind & Spec. No.) Dia. _____ (Subject to pressure) Thickness ___ in. Attachment _____ (Welded, Bolted)
Floating. Material _____ Dia. _____ Thickness ___ in. Attachment _____

10. Tubes: Material _____ O.D. _____ in Thickness _____ (Inches or gage) Number _____ Type _____ (Straight or U)

Items 11 - 14 incl. to be completed for inner chambers of jacketed vessels, or channels of heat exchangers.

11. Shell: Material _____ T.S. _____ Nominal Thickness ___ in. Corrosion Allowance ___ in. Dia. ___ ft. ___ in. Length ___ ft. ___ in.
(Kind & Spec. No.) (Min. of Range Specified)

12. Seams: Long _____ H.T.[1] _____ R.T. _____ Efficiency _____ %
Girth _____ H.T.[1] _____ R.T. _____ No. of Courses _____

13. Heads: (a) Material _____ T.S. _____ (b) Material _____ T.S. _____

	Location	Thickness	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Dia.	Side to Press. (Conv. or conc.)
(a)	Top, bottom, ends								
(b)	Channel								

If removable, bolts used (a) _____ (b) _____ (c) _____ Other fastening _____ (Describe or attach sketch)

Drop Weight _____
Charpy Impact _____ ft. lb.

14. Design pressure[2] _____ psi at _____ °F at temp of _____

Items below to be completed for all vessels where applicable.

15. Safety Valve Outlets: Number _____ Size _____ Location _____

16. Nozzles:

Purpose (Inlet, Outlet, Drain)	Number	Dia. or Size	Type	Material	Thickness	Reinforcement Material	How Attached

17. Inspection Openings: Manholes, No. _____ Size _____ Location _____
Handhole., No. _____ Size _____ Location _____
Threaded, No. _____ Size _____ Location _____

18. Supports: Skirt _____ (Yes or No) Lugs _____ (Number) Legs _____ (Number) Other _____ (Describe) Attached _____ (Welded or Bolted)

1 - If Postweld Heat-Treated.
2 - List other internal or external pressure with coincident temperature when applicable.

SN-303

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. Manufactured & Certified by . General Electric Company Nuclear Energy (GE-NE)
3901 Castle Hayne Road, Wilmington, North Carolina 28401
(Name and Address of NPT Certificate Holder)

1(b) Manufactured for : Fermi-2 Newport, Michigan 48166
(Name and Address of N Certificate Holder for completed nuclear component)

2. Identification - Certificate Holder's S/N of Part : 0363 Nat'l Bd. No. N/A

(a) Constructed According to Drawing No: 79SD228G012 Rev 35 Dwg. Prepared by D. L. Peterson

(b) Description of Part Inspected: Piston Tube Assembly

(c) Applicable ASME Code: Section III , Edition 1974 , Addenda Date W75 , Case No. 1361-2 Class 1

3. REMARKS: Standard part for use with Reactor. Hydrostatically tested at 1825 psi min.
(Brief description of service for which component was designed)

Sheet 7 of 7

1. Cap 159A1176P001
SA182 - F316
2/8" thick x 1 1/16" OD

2. Indicator Tube 159A1176P004
SA312 - TP31
3/4" sch 40 - seamless pipe
0.113" wall thickness
1.055" max. dia.

3. Plug 159A1176P001
SA182 - F304
1/4" thick x 0.812" OD

4. Flange 918D610P001 (719E474)
SA182 - F304
3.37" thick x 8 5/8" OD

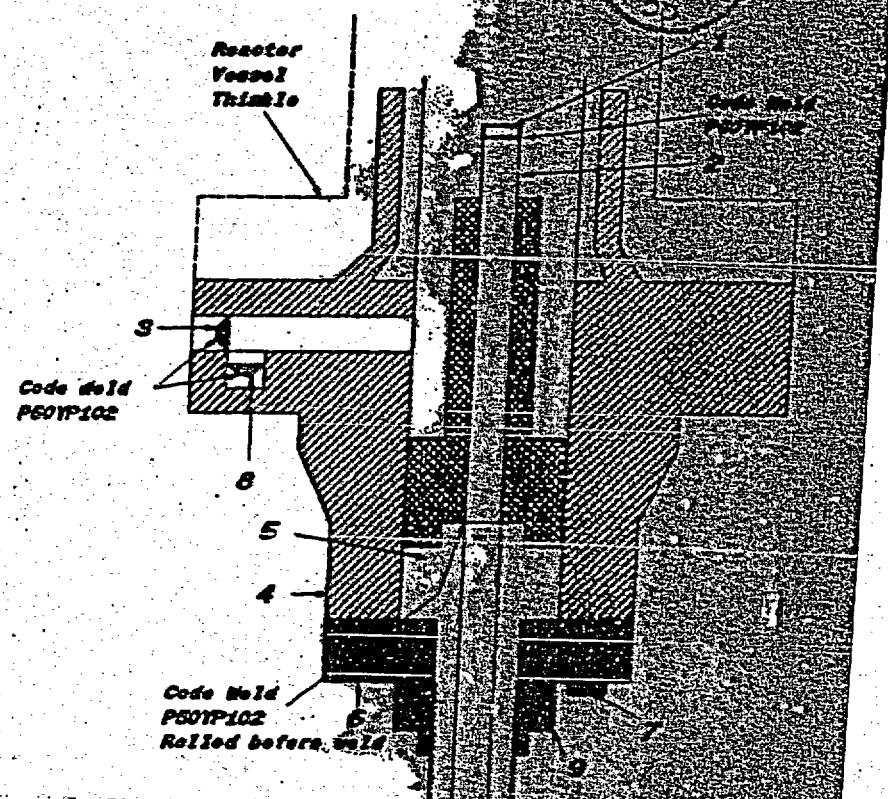
5. Head 12SB3539P005
SA182 - F304
7/8" thick x 2.875" dia.

6. Ring Flange 14B5122P002
SA182 - F304
1" thick x 5.0" OD x 1.75" ID

7. Cap Screw 117C4516P002
SA193 - B6
6 ea. 1/2" dia. on 4 1/8" bolt circle

8. Plug 17SA7951P001
SA182 - F304
0.35" thick x 1.307" dia.

9. Nut 114B5460P001
2GA - 19 SA479
1.30" thick x 2.62" dia.



N-2 B-3

Page 1 of 2

CERTIFICATE HOLDER'S DATA REPORT FOR NUCLEAR PARTS AND APPURTENANCES

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

1. Manufactured by General Electric Co., Castle Hayne Rd., Wilmington, N.C.
(Name and address of NPT Certificate Holder)

(a) Manufactured for STOCK
(Name and address of N Certificate Holder for purchaser, if known)

2. Identification: Certificate Holder's Serial No. or Part 1721 N or [illegible] Id. No.

(a) Constructed According to Drawing No. 7982D226G010 Drawing Prepared by D. L. Peterson

(b) Description of Part Inspected Piston Tube Assembly

(c) Applicable ASME Code: Section III, Edition 1971, Addenda date S'73, Case No. — Class 1

3. Remarks: Standard part for use in GE reactors.
(Identification of systems for which components were designed)

Hydrostatic air tested at 1615 psi.

NOTE: This Piston Tube Assembly was Hydrostatically Tested in Control Rod Drive S/N 9376

* Number of Sheets - 2

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 9/27 19 84 Signed C. E. Reed (NPT Certificate Holder) By J. E. Stuckmann

Certificate of Authorization Expires June 16, 1987 Certificate of Authorization No. NPT N-1151

CERTIFICATION OF DESIGN FOR APPURTENANCE (When applicable)

Design information on file at GENERAL ELECTRIC CO., SAN JOSE, CALIF.

Stress analysis report on file at GENERAL ELECTRIC CO., SAN JOSE, CALIF.

Design specifications certified by Vernon N. Pence Prof. Eng. State Calif. Reg. No. 14488

Stress analysis report certified by Vernon N. Pence Prof. Eng. State Calif. Reg. No. 14488

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 or Province of North Carolina and employed by Department of Labor of State of North Carolina have inspected the part of a pressure vessel described in this Stamped Data Report on 9/27, 19 84 and state that to the best of my knowledge and belief, the 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 9/27 19 84

Signed [signature] Commissions N.C. 723, P&V C1765, OHIO
(National Board, State, Province and No.)

This form (E00010) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, N.Y. 10017

SH A 1722

Page 2 of 2

...REPORT FOR NUCLEAR PART AND APPURTENANCES
...ASME Code, Section III, Div. 1

1. Manufactured by General Electric Company, Cercle Lane Rd., Ellington, N.C.
(Name and address of NPT Certificate Holder)

(a) Manufactured for STOCK
(Name and address of N Certificate Holder for component or appurtenance)

2. (a) Certificate Holder's Serial No. of Part 1722 Work Ord. No.

(b) Constructed According to Drawing No. 7980228G016 Drawing Prepared by D. L. Peterson

(c) Description of Part Inspected Piston Tube Assembly

(d) Applicable ASME Code Section III, Edition 1971, Addenda date S'73, Case No. , Class 1

3. Remarks Standard part for use with Reactor. Hydrostatically tested at 1825 psi.
(Brief description of features that distinguish part from duplicate)

NOTE: THIS PISTON TUBE ASSEMBLY WAS HYDROSTATICALLY TESTED IN
CONTROL ROD DRIVE S/N: 8376

1. Cap 167A2343P1
(167A2343)
SA182-F304
3/8 thick x 1 1/16 OD

2. Indicator Tube 104E1336P2
SA312-TP316
3/4 sch 40-seamless pipe
0.113 wall thickness
1.050 max. dia.

3. Plug 139A1176P1
SA182-F304
1/4 thick x 0.812 OD

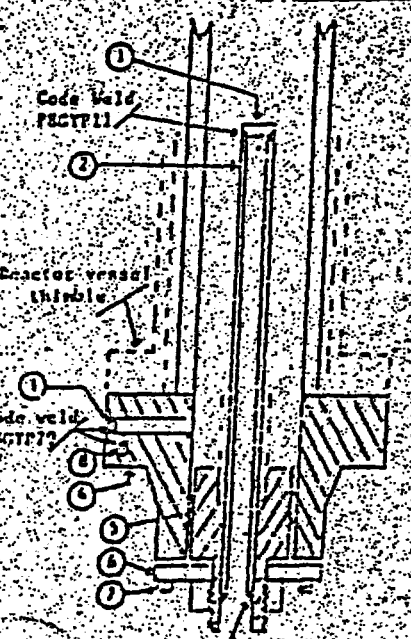
4. Flange 819D610P1 (719C274)
SA182-F304
3.37 thick x 3 5/8 OD
neck 1 1/16 thick x 3.0 OD
2.875 ID

5. Bend 139E235P1
SA182-F304
5/8 thick x 2.875 Dia.

6. Ring Flange 114B512P1
SA182-F304
1" thick x 5.0 OD x 1.75 ID

Bolting 217C451P2
1/2-13 UNC dia. on 4 1/8 bolt circle

Gasket 177A796P1
SA240-304
1/32 thick x 1.327 dia.



SN # 1722

Page 1 of 2

FORM N-4 NPT CERTIFICATE HOLDER'S DATA REPORT FOR NUCLEAR PART AND APPURTENANCES
As required by the Provisions of the ASME Code Rules, Section III, Div. 1

1. (a) Manufactured by General Electric Co., Castle Hayne Rd., Wilmington, N.C.
(Name and address of NPT Certificate Holder)

(b) Manufactured for BWOR
(Name and address of N Certificate Holder for purchaser named appurtenance)

2. Manufacturer's Serial No. of Part 3023 Nat'l Bd. No.

(c) Constructed According to Drawing No. 7980228C 010 Drawing Prepared by D. L. Petersen

(d) Description of Part Inspected Fission Tube Assembly

(e) Applicable ASME Code: Section III, Edition 1971, Addenda date S'73, Code No. Class 1

3. Remarks Standard part for use with Reactor. Hydrostatically tested at 1875 psi.
(Brief description of service for which component was designed)

We certify that the statements made in this report are correct and this vessel part or appurtenance as defined by 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 12/9 19 83 Signed GE, EXPT-RED By J. Ostrickman
(NPT Certificate Holder)

Certificate of Authorization Expires June 16, 1984 Certificate of Authorization No. NPT-R-1151

GE ACCEPTED

CERTIFICATION OF DESIGN FOR APPURTENANCE (when applicable)

Design information on file at GENERAL ELECTRIC CO., SAN JOSE, CALIF.

Stress analysis report on file at GENERAL ELECTRIC CO., SAN JOSE, CALIF.

Design specifications certified by Vernon W. Fence Prof. Eng. State Calif. Reg. No. 14488

Stress analysis report certified by Vernon W. Fence Prof. Eng. State Calif. Reg. No. 14488

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 or Province of North Carolina and employed by Department of Labor of State of North Carolina have inspected the part of a pressure vessel described in this Partial Data Report on 12/9 19 83 and state that to the best of my knowledge and belief, the NPT Certificate Holder has constructed this N.A 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 12/9 19 83

Commissions NB 779, PA, WV, CLEJ, Unit D
National Board, State, Province and No.

This form (E00040) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, N.Y. 10017

S/N # 3023

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DATA REPORT FOR NUCLEAR PARTS AND APPURTENANCES*

As required by the Code, Section III, Div. 1

1. Manufactured by Combustion Engineering, Canada Square Rd., Windsor, N.C.
(name and address of NPT Certificate Holder)

Manufactured for [illegible]
(name and address of N Certificate Holder for subassembled nuclear components)

2. (a) Manufacturer's Serial No. of Part 3023 Nat'l Bd. No.

(b) Customer's Accounting or Drawing No. 79802284010 Drawing Prepared by D. L. Peterson

(c) Description of Part Inspected Pitting Tube Assembly

(d) Applicable ASME Code Section III, Edition 1971 Addenda date S'73 Code No. Class 1

3. Remarks Standard part for use with Reactor. Hydrostatically tested at 1825 psi

(Brief description of services for which components were designed)

1. Cap [illegible]
(SA182-F304)
SA182-F304
3/8 thick x 3 1/16 OD

2. Indicator Tube 1048133GP2
SA312-TP316
3/4 sch 40-seamless pipe
0.113 wall thickness
1.065 nom. dia.

3. Flange 359A176P1
SA182-F304
2/4 thick x 8.812 OD

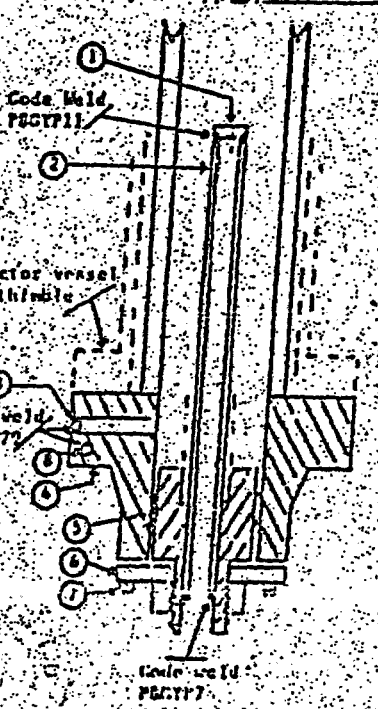
4. Flange 8198610P1 (719274)
SA182-F304
2.37 thick x 8 3/8 OD
Counter 3 1/16 thick x 5.0 OD
2.875 ID

5. Plug [illegible]
[illegible]
[illegible] x 2.875 Dia.

[illegible]
5.0 OD x 1.75 ID

[illegible]
x 3 1/8 bolt circle

[illegible]
1.5" dia.



SN #3023

FORM N-1 NPT CERTIFICATE HOLDERS' DATA REPORT FOR NUCL. AR PART AND APPURTENANCES

As Required by the Provisions of the ASME Code Boiler, Section III, Div. 1

1. (a) Manufactured by General Electric Co., Castle Hayne Rd., Wilmington, N.C.
(Name and address of NPT Certificate Holder)

(b) Manufactured for STOCK
(Name and address of N Certificate Holder for purchaser of nuclear component)

2. Identification-Certificate Holder's Serial No. or Part 1855 Nat'l Bd. No.

(a) Constructed According to Drawing No. 796D228G 010 Drawing Prepared by D. L. Peterson

(b) Description of Part Inspected Pigtail Tube Assembly

(c) Applicable ASME Code Section III, Edition 1971, Addenda date W'72 Code No. Class 1

3. Remarks Standard part for use with Reactor. Hydrostatically tested at 1820 psi.
(Brief description of services for which component was designed)

To 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 [illegible]
(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 pressure vessel Design Specification and Stress Report.)

Date 10/16 - 19 81 Signed GE, NPD-RMD By J. Stovall
(NPT Certificate Holder)

Certificate of Authorization Expires November 15, 1981 Certificate of Authorization No. NPT-S-1151

CERTIFICATION OF DESIGN FOR APPURTENANCE (when applicable)

Design information on file at General Electric Co., NEPD-RMD Castle Hayne Rd., Wilmington

Stress analysis report on file at General Electric Co., NEPD-RMD Castle Hayne Rd., Wilmington

Design specifications certified by Vernon W. Pence Prof. Eng. State Calif. Reg. No. 14488

Stress analysis report certified by Vernon W. Pence Prof. Eng. State Calif. Reg. No. 14488

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 or Province of North Carolina and employed by Department of Labor of State of North Carolina have inspected the part of a pressure vessel described in this Partial Data Report on 10/16, 19 81, 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 10/16 19 81

E. E. Merrill
Inspector's Signature

N.C. 723, PA WC1766, OHIO
Commissions
(National Board, State, Province and No.)

(10/77) This form (E00040) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, N.Y. 10017

S/N 1855

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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 General Electric Company, Castle Hayne Rd., Wilmington, N.C.
(Name and address of NPT Certificate Holder)

(b) Manufactured for STOCK
(Name and address of N Certificate Holder for component or appurtenance)

2. Identification-Certificate Holder's Serial No. of Part 1855 Nat'l Bd. No.

(a) Constructed According to Drawing No. 758D2280010 Drawing Prepared by D. L. Paterson

(b) Description of Part Inspected Piston Tube Assembly

(c) Applicable ASME Code Section III, Edition 1971, Addenda date W'72, Case No. Class 1

3. Remarks Standard part for use with Reactor. Hydrostatically tested at 1820 psi
(Brief description of variance for which acceptance was granted)

* Number of sheets - 2

1. Cap 187A2343P1
(187A2343)
SA182-F304
3/8 thick x 1 1/16 OD

2. Indicator Tube 104B1336P1
SA312-TP316
3/4 sch 40-seamless pipe
0.113 wall thickness
1.049 max I dia.

3. Plug 159A1176P1
SA182-F304
1/4 thick x 0.812 OD

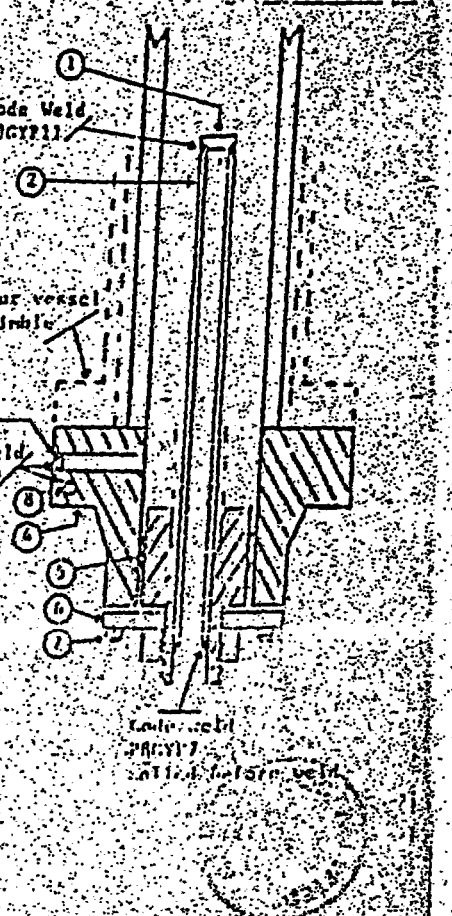
4. Flange 919DA10P1 (719D2474)
SA182-F304
3.37 thick x 8 5/8 OD
neck 1 1/2 thick x 5.0 OD
2.875 ID

5. Head 129B1519P1
SA182-F304
7/8 thick x 2.375 Dia.

6. Ring Flange 115A1122P2
SA182-F304
1" thick x 5.0 OD x 2.75 ID

7. Cap Screw 115C5158P2
SA193-B6
6 ea. 1/2 dia. on 4 3/8 bolt circle

8. Plug 122A1554P1
SA182-F304
0.25 thick x 1.337 dia.



SN #1855

Page 1 of 2

CODE DATA REPORT FOR NUCLEAR PARTS AND APPURTENANCES

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

1. Manufactured by General Electric Co., Castle Rayne Rd., Kinston, N.C.
(Name and address of NPT Certificate Holder)

2. Manufactured for STOCK
(Name and address of N Certificate Holder for vessel for which component is)

3. Identification: Certificate Holder's Serial No. of Part 1410 Mod. No.

4. (a) Constructed according to Drawing No. 7980228G010 Drawing Prepared by O. L. Peterson

(b) Description of Part Supported Piston Tube Assembly

(c) Applicable ASME Code Section III, Edition 1971, Addenda date S'73, Code No. , Class

5. Remarks Standard part for use with reactor.
(Brief description of service for which component was designed)

Hydrostatically tested at 1825 psi.

NOTE: This Piston Tube Assembly was Hydrostatically

* Number of Sheets - 2 Tested in Control Rod Drive S/N: 8347

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 Specifications and Stress Report are not the responsibility of the NPT Certificate Holder for parts. An NPT Certificate Holder for appurtenances is responsible for, including a separate Design Specification and Stress Report if the appurtenance is not included in the component Design Specification and Stress Report.)

Date 9/27, 19 84 Signed GE-NEPO-NPD By J Ettenheimer
(NPT Certificate Holder)

Certificate of Authorization Expires June 16, 1987 Certificate of Authorization No. NPT N-1151

CERTIFICATION OF DESIGN FOR APPURTENANCE (when applicable)

Design information on file at GENERAL ELECTRIC CO., SAN JOSE, CALIF.

Stress analysis report on file at GENERAL ELECTRIC CO., SAN JOSE, CALIF.

Design specifications certified by Vernon W. Peros Prof. Eng. State Calif. Reg. No. 14488

Stress analysis report certified by Vernon W. Peros Prof. Eng. State Calif. Reg. No. 14488

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 or Province of North Carolina and employed by Department of Labor of Raleigh, North Carolina have inspected the part of a pressure vessel described in this Data Report on 9/27, 19 84 and state that to the best of my knowledge and belief, the 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 equipment described in this Partial Data Report. Furthermore, neither the Inspector nor his employer shall in no event be liable for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date 9/27, 19 84

Commissions N.C. 773, N.B. 1765, C-410
(National Board, State, Province and No.)

This form (E00030) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, N.Y. 10017.

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...CERTIFICATE OF COMPLIANCE FOR NUCLEAR PARTS AND APPURTENANCES...
...required by the Provisions of the ASME Code Section III, Div. 1...

...General Electric Company, Cobalt Byrne Rd., Wilmington, N.C.
...Shop...
...STOCK... P.O. ...
...Shop...
...1410... Work Sh. No. ...
(d) Commercial [illegible] to Drawing No. 7983028G010 Drawing Prepared by D. L. Peterson
(e) Description of Part Inspected Piston Tube Assembly
(f) Applicable ASME Code Section III, Edition 1971, Addenda date S'73, Code No. ... Class 1
2. Remarks: Standard part for use with Reactor. Hydrostatically tested at 1825 psi
...
3. NOTE: THIS PISTON TUBE ASSEMBLY WAS HYDROSTATICALLY TESTED IN
CONTROL ROD DRIVE S/Ns : 8347

1. Cap 187A234P1
(187A2343)
SA182-F304
3/8 thick x 1 1/16 [illegible]

2. Indicator Tube 104E113GP1
SA312-TP316
3/4 sch 40-seamless pipe
0.113 wall thickness
1.063 max. dia.

3. Plug 159A117GP1
SA182-F304
3/4 thick x 0.812 OD

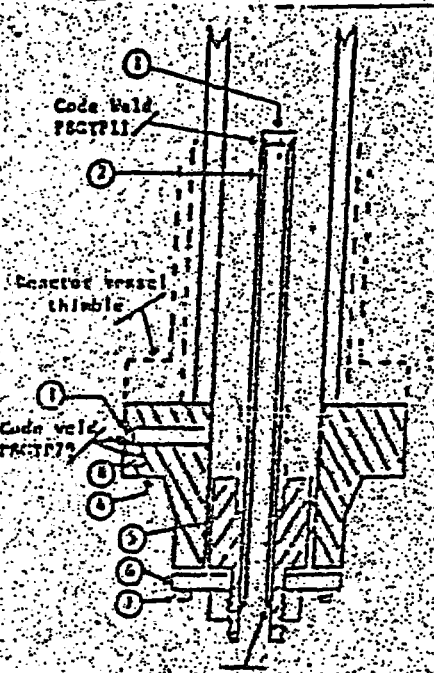
4. Flange 419A410P1 (719[illegible]
SA182-F304
3.37 thick x 5 3/8 OD
each 1 1/16 thick x 3.0 OD
2.875 ID

5. Shaft 125E335GP1
SA182-F304
7/8 thick x 2.875 dia.

6. Ring Flange 114E512GP1
SA182-F304
[illegible] x 5.0 OD x 1.75 ID

7. [illegible] 217C516P2
[illegible] dia. on 4 1/8 bolt circle

[illegible]
[illegible] x 1.437 dia.



SJA 1410

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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. Manufactured & Certified by : General Electric Company Nuclear Energy (GE-NE)
3901 Castle Hayne Road, Wilmington, North Carolina 28401
(Name and Address of NPT Certificate Holder)

(b) Manufactured for : Fermi-2 Newport, Michigan 48166
(Name and Address of N Certificate Holder for completed nuclear component)

2. Identification - Certificate Holder's S/N of Part : 0307 ✓ Nat'l Bd. No. N/A

(a) Constructed According to Drawing No: 788D228G012 Rev 35 Dwg. Prepared by D.L.Peterson

(b) Description of Part Inspected: Piston Tube Assembly

(c) Applicable ASME Code: Section III , Edition 1974 , Addenda Date W75 , Case No. 1361-2 Class 1

3. REMARKS: Standard part for use with Reactor. Hydrostatically tested at 1825 psi min.
(Brief description of service for which component was designed)

Sheet 1 of 1

We certify that the statements 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 Designed Specification and Stress Report are not the responsibility of the NPT Certificate Holder for parts. An NPT Certification 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: 01/16/96 Signed GE-NE By
(NPT Certificate Holder) (N Cert Representative)

Certificate of Authorization Expires: 6/16/96 Certification of Authorization No. : N PT N- 1151

Certification of Design for Appurtenance

Design information on file at GE Company, San Jose, California

Stress analysis report on file at GE Company, San Jose, California

DC22A6253 Rev. 2
Design specification certified by B.N. Sridhar Prof. Eng. State Calif. Reg. No. 18345

DC22A6254 Rev 1
Stress analysis report certified by Edward Yoshio Prof. Eng. State Calif. Reg. No. M018648

Certification of Shop Inspection

I, the undersigned, holding a valid commission by the National Board of Boiler and Pressure Inspectors and/or the State or Province of North Carolina and employed by Department of Labor of State of North Carolina have inspected the part of a pressure vessel described in this Partial Data Report on 1/16, 1996, 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 the Partial Data Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damages or a loss of any kind arising from or connected with this inspection.

1/16, 1996 Jerome P Ewers NC 1231, Ohio, WC 3695 PA
Date Inspector's Signature National Board, State, Province and No.

*Supplemental sheets in form of lists, sketches or drawing may be used provided (1) size is 8-1/2" x 11", (2) information in 1-2 on this Data Report is included on each sheet, and (3) each sheet is numbered and number of sheets is recorded in Item 3. "REMARKS".

(07/93)

02-015

FORM U-2 (back)

Items 4-8 Incl. to be completed for single wall vessels, jackets vessels, or shells of heat exchangers.

4. Shell: Material _____ T.S. _____ Nominal Thickness ___ in. Corrosion Allowance ___ in. Dia. ___ ft. ___ in. Length ___ ft. ___ in.
(Kind & Spec. No.) (Min. of Range Specified)

5. Seams: Long _____ H.T.[1] _____ R.T. _____ Efficiency _____ %
Girth _____ H.T.[1] _____ R.T. _____ No. of Courses _____

6. Heads: (a) Material _____ T.S. _____ (b) Material _____ T.S. _____

Location (Top, Bottom, Ends)	Thickness	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Press. (conv. or conc.)
(a)								
(b)								

If removable, bolts used _____ (Material, Spec. No., T.S. Stee Number) Other fastening _____ (Describe in detail)

7. Jacket Closure: _____
(Describe as welded, bar, etc. If bar give dimensions, if bolts, describe or sketch)

Drop Weight
Charpy Impact _____ ft-lb

8. Design pressure[2] 1250 psi at 575 °F at temp of _____ °F

Items 9 and 10 to be completed for tube sections

9. Tube Sheets: Stationary. Material _____ (Kind & Spec. No.) Dia. _____ (Subject to pressure) Thickness ___ in. Attachment _____ (Welded, Rolled)
Floating. Material _____ Dia. _____ Thickness ___ in. Attachment _____

10. Tubes: Material _____ O.D. _____ Thickness _____ Inches or gage. Number _____ Type _____ (Str. or U)

Items 11 - 14 incl. to be completed for inner chambers of jacketed vessels, or channels of heat exchangers.

11. Shell: Material _____ T.S. _____ Nominal Thickness ___ in. Corrosion Allowance ___ in. Dia. ___ ft. ___ in. Length ___ ft. ___ in.
(Kind & Spec. No.) (Min. of Range Specified)

12. Seams: Long _____ H.T.[1] _____ R.T. _____ Efficiency _____ %
Girth _____ H.T.[1] _____ R.T. _____ No. of Courses _____

13. Heads: (a) Material _____ T.S. _____ (b) Material _____ T.S. _____

Location	Thickness	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Press. (conv. or conc.)
(a) Top, bottom, ends								
(b) Channel								

If removable, bolts used (a) _____ (b) _____ (c) _____ Other fastening _____ (Describe or sketch)

Drop Weight
Charpy Impact _____ ft-lb

14. Design pressure[2] _____ psi at _____ °F at temp of _____ °F

Items below to be completed for all vessels where applicable.

15. Safety Valve Outlets: Number _____ Size _____ Location _____

16. Nozzles:

Purpose (Inlet, Outlet, Drain)	Number	Dia. or Size	Type	Material	Thickness	Reinforcement Material	Reinforcement Thickness

17. Inspection Openings: Manholes, No. _____ Size _____ Location _____
Handholes, No. _____ Size _____ Location _____
Threaded, No. _____ Size _____ Location _____

18. Supports: Skirt _____ (Yes or No) Lugs _____ (Number) Legs _____ (Number) Other _____ (Describe) Attached _____ (Welded or How)

1 - If Fusion Welded or Heat-Treated.
2 - List other internal or external pressure with coincident temperature when applicable.

#307

02-015

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. Manufactured & Certified by : General Electric Company Nuclear Energy (GE-NE)
3901 Castle Hayne Road, Wilmington, North Carolina 28401
(Name and Address of NPT Certificate Holder)

(b) Manufactured for : Fermi-2 Newport, Michigan 48166
(Name and Address of N Certificate Holder for completed nuclear component)

2. Identification - Certificate Holder's S/N of Part : 0307 Nat'l Bd No. N/A

(a) Constructed According to Drawing No: 798D228G012 Rev 35 Dwg. Prepared by D. L. Peterson

(b) Description of Part Inspected: Piston Tube Assembly

(c) Applicable ASME Code: Section III , Edition 1974 , Addenda Date W75 Case No. 1361-2 Class 1

3. REMARKS: Standard part for use with Reactor. Hydrostatically tested at 1825 psi min.
(Brief description of service for which component was designed)

Sheet 2 of 2

167A2345P001
1. Cap 4463937-4P001
SA182 - F316
3/8" thick x 1 1/16" OD

166A4536P003
2. Indicator Tube 4478-4998P004
SA312 - TP316
3/4" sch 40 - seamless pipe
0.113" wall thickness
1.065" max. dia.

3. Plug 159A1176P001
SA182 - F304
1/4" thick x 0.812" OD

4. Flange 918D610P001 (719E474)
SA182 - F304
3.37" thick x 9 5/8" OD

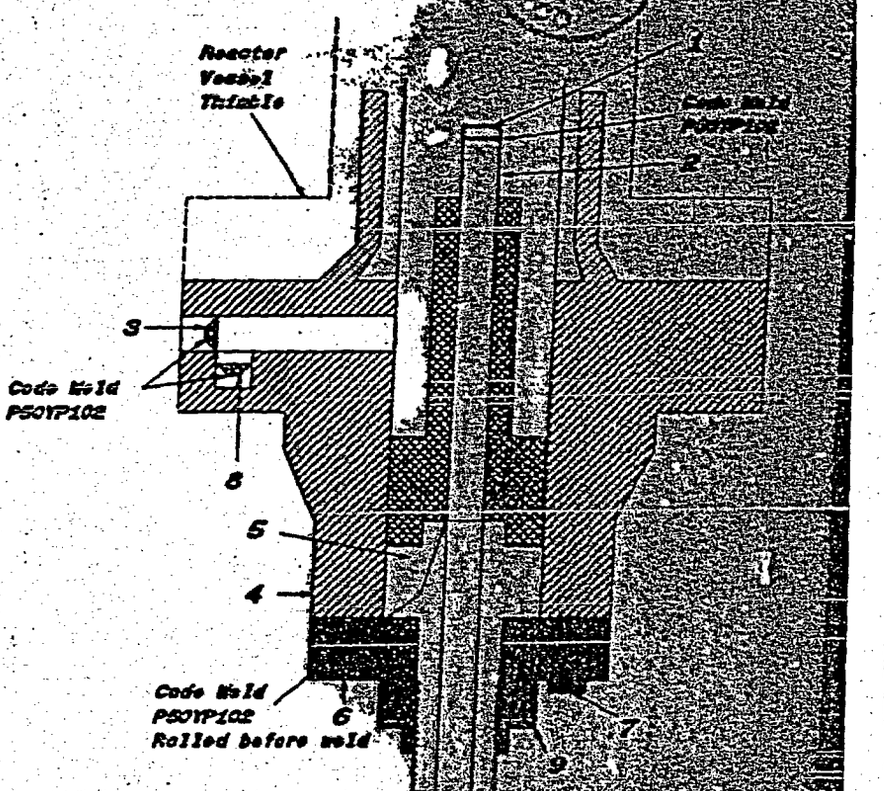
5. Head 122B3539P005
SA182 - F304
7/8" thick x 2.875" dia.

6. Ring Flange 114E5122P002
SA182 - F304
1" thick x 5.0" OD x 1.75" ID

7. Cap Screw 117C4516P002
SA193 - B6
6 ea. 1/2" dia. on 4 1/8" bolt circle

8. Plug 175A7961P001
SA182 - F304
0.38" thick x 1.307" dia.

9. Nut 114B5450P001
Mat'l: 19, SA479
1.30" thick x 2.62" dia.



#307

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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. Manufactured & Certified by : General Electric Company Nuclear Energy (GE-NE)

3301 Castle Hayne Road, Wilmington, North Carolina 28401
(Name and Address of NPT Certificate Holder)

(b) Manufactured for : Fermi-2 Newport, Michigan 48166
(Name and Address of N Certificate Holder for completed nuclear component)

2. Identification - Certificate Holder's S/N of Part : 0333 ✓ Nat'l Bd. No. N/A

(a) Constructed According to Drawing No: 7980228G012 Rev 35 Dwg. Prepared by D.L. Pearson

(b) Description of Part Inspected: Piston Tube Assembly

(c) Applicable ASME Code: Section III , Edition 1974 , Addenda Date W75 , Case No: 1361-2 Class 1

3. REMARKS: Standard part for use with Reactor. Hydrostatically tested at 1825 psi. min.
(Brief description of service for which component was designed)

Sheet 1 of 2

We certify that the statements 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 Designed Specification and Stress Report are not the responsibility of the NPT Certificate Holder for parts. An NPT Certification 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: 01/16/96 Signed GE-NE By
(NPT Certificate Holder) (GE QA Representative)

Certificate of Authorization Expires: 6/16/96 Certification of Authorization No. : NPT-1151

Certification of Design for Appurtenance

Design information on file at GE Company, San Jose, California

Stress analysis report on file at GE Company, San Jose, California

BC22A6253 Rev. 2
Design specification certified by B.N. Sridhar Prof. Eng. State Calif. Reg. No. 18345

BC22A6254 Rev 1
Stress analysis report certified by Edward Yoshio Prof. Eng. State Calif. Reg. No. M018649

Certification of Shop Inspection

I, the undersigned, holding a valid commission by the National Board of Boiler and Pressure Inspectors and/or the State or Province of North Carolina and employed by Department of Labor of State of North Carolina have inspected the part of a pressure vessel described in this Partial Data Report on 1/16, 1996 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 the Partial Data Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damages or a loss of any kind arising from or connected with this inspection.

1/16, 1996 Inspector's Signature NC 1231, Ohio, WC 3693 PA
Date National Board, State, Province and No.

*Supplemental sheets in form of lists, sketches or drawing may be used provided (1) size is 8-1/2" x 11", (2) information in 1-2 on this Data Report is included on each sheet, and (3) each sheet is numbered and number of sheets is recorded in item 3. "REMARKS".

(12/86)

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Sheet 20 of 37

FORM U-2 (back)

Items 4-8 incl. to be completed for single wall vessels, jackets vessels, or shells of heat exchangers.

4. Shell: Material _____ T.S. _____ Nominal Thickness ___ in. Corrosion Allowance ___ in. Dia. ___ ft. ___ in. Length ___ ft. ___ in.
(Kind & Spec. No.) (Min. of Range Specified)

5. Seams: Long _____ H.T.[1] _____ R.T. _____ Efficiency ___%
Girth _____ H.T.[1] _____ R.T. _____ No. of Courses _____

6. Heads: (a) Material _____ T.S. _____ (b) Material _____ T.S. _____

Location (Top, Bottom, Ends)	Thickness	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Press. (Conv. or Conc.)
(a)								
(b)								

If removable, bolts used _____ Other fastening _____
(Material, Spec. No., T.S. Bar Number) (Describe or attach sketch)

7. Jacket Closure: _____
(Describe as edges and weld, bar, etc. If bar give dimensions, if bolts, describe or attach)

Drop Weight _____
Charpy Impact _____ ft-lb

8. Design pressure[2] 1250 psi at 575 °F at temp of _____ °F

Items 9 and 10 to be completed for tube sections

9. Tube Sheets: Stationary. Material _____ Dia. _____ Thickness ___ in. Attachment _____
(Kind & Spec. No.) (Subject to pressure) (Welded, Bolted)
Floating. Material _____ Dia. _____ Thickness ___ in. Attachment _____

10. Tubes: Material _____ O.D. _____ in Thickness _____ Inches or gage. Number _____ Type _____
(Seamless)

Items 11 - 14 incl. to be completed for inner chambers of jacketed vessels, or channels of heat exchangers.

11. Shell: Material _____ T.S. _____ Nominal Thickness ___ in. Corrosion Allowance ___ in. Dia. ___ ft. ___ in. Length ___ ft. ___ in.
(Kind & Spec. No.) (Min. of Range Specified)

12. Seams: Long _____ H.T.[1] _____ R.T. _____ Efficiency ___%
Girth _____ H.T.[1] _____ R.T. _____ No. of Courses _____

13. Heads: (a) Material _____ T.S. _____ (b) Material _____ T.S. _____

Location	Thickness	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Press. (Conv. or Conc.)
(a) Top, bottom, ends:								
(b) Channel								

If removable, bolts used (a) _____ (b) _____ (c) _____ Other fastening _____
(Describe or attach sketch)

Drop Weight _____
Charpy Impact _____ ft-lb

14. Design pressure[2] _____ psi at _____ °F at temp of _____ °F

Items below to be completed for all vessels where applicable.

15. Safety Valve Outlets: Number _____ Size _____ Location _____

16. Nozzles:

Purpose (Inlet, Outlet, Drain)	Number	Dia. or Size	Type	Material	Thickness	Flange Attachment (Welded, Screwed)	Flow Direction

17. Inspection Openings: Manholes, No. _____ Size _____ Location _____
Handholes, No. _____ Size _____ Location _____
Threaded, No. _____ Size _____ Location _____

18. Supports: Skirt _____ Lugs _____ Legs _____ Other _____ Attached _____
(Yes or No) (Number) (Number) (Describe) (Welded & How)

1 - If Fusion Welded Heat-Treated.
2 - List either internal or external pressure with coincident temperature when applicable.

#333

FORM N-2 NPT CERTIFICATE HOLDERS' DATA REPORT FOR NUCLEAR PARTS AND APPURTENANCES
As required by the Provision of the ASME Code Rules, Section III, Div. 1

1. Manufactured & Certified by : General Electric Company Nuclear Energy (GENE)
3901 Castle Hayne Road Wilmington North Carolina 28402
(Name and Address of NPT Certificate Holder)

(b) Manufactured for : Fermi-2 Newport Michigan 48166
(Name and Address of N Certificate Holder for completed nuclear component)

2. Identification - Certificate Holder's S/N of Part : 0333 Nat'l Bd No. N/A

(a) Constructed According to Drawing No: 79SD228G012 Rev 35 Dwg. Prepared by D.L. Peterson

(b) Description of Part Inspected: Piston Tube Assembly

(c) Applicable ASME Code: Section III , Edition 1974 , Addenda Date W75 , Case No. 1361-2 Class 1

3. REMARKS: Standard part for use with Reactor, Hydrostatically tested at 1625 psi min.
(Brief description of service for which component was designed)

Sheet 2 of 3

1. Cap 168A2346P001
SA182 - F316
3/8" thick x 1 1/16" OD

2. Indicator Tube 168K5336P003
SA312 - TP. 6
3/4" sch 40 - seamless pipe
0.113" wall thickness
1.065" max. dia.

3. Plug 159A1176P001
SA182 - F304
1/4" thick x 0.812" OD

4. Flange 918D610P001 (719E474)
SA182 - F304
3.37" thick x 9 5/8" OD

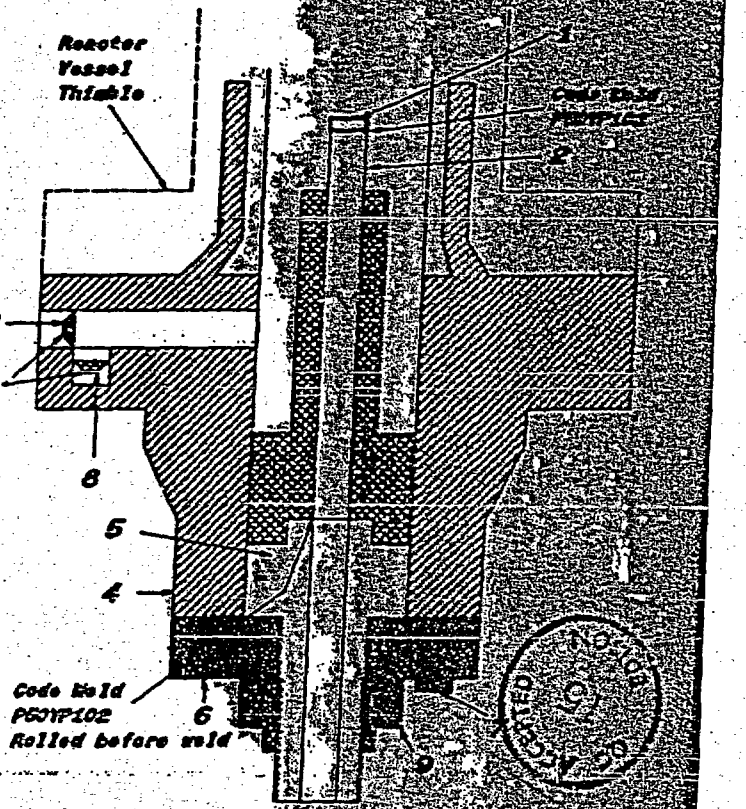
5. Hold 129B3539P005
SA182 - F304
7/8" thick x 2.875" dia.

6. Ring Flange 114B5122P002
SA182 - F304
1" thick x 5.0" OD x 1.75" ID

7. Cap Screw 117C4516P002
SA193 - B6
6 ea. 1/2" dia. on 4 1/8" bolt circle

8. Plug 175A7951P001
SA182 - F304
0.38" thick x 1.307" dia.

9. Nut 114B5460P001
XM - 19 SA479
1.30" thick x 2.62" dia.



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CERTIFICATE HOLDER'S DATA REPORT FOR NUCLEAR PART AND APPURTENANCE

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

1. (a) Manufactured by General Electric Co., Castle Heyne Rd., Wilmington, N.C.
(Name and address of NPT Certificate Holder)

(b) Manufactured for STOCK
(Name and address of N Certificate Holder, if required (other than 1a))

2. Identification: Certificate Holder's Serial No. or Part 2877 Nat'l Bd. No.

(a) Commercial Identifying or Drawing No. 7981226G010 Drawing Prepared by D. L. Peterson

(b) Description of Part Inspected Fission Tube Assembly

(c) Applicable ASME Code Section III, Edition 1971, Addenda thru S'73 Code No. Class 1

3. Remarks Standard spare for use with Reactor. Hydrostatically tested at 1875 psi.
(Brief description of services for which components were designed)

We hereby declare 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 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 12/9 19 83 Signed GE, WILM-NC By J. Stratemeier
(NPT Certificate Holder)

Certificate of Authorization Expires June 16, 1984 Certificate of Authorization No. NPT-N-1131

CERTIFICATION OF DESIGN FOR APPURTENANCE (when applicable)

Design Information on File at GENERAL ELECTRIC CO., SAN JOSE, CALIF.

Stress analysis report on File at GENERAL ELECTRIC CO., SAN JOSE, CALIF.

Design specifications certified by Vernon W. Pence Prof. Eng. State Calif. Reg. No. 14488

Stress analysis report certified by Vernon W. Pence Prof. Eng. State Calif. Reg. No. 14488

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 or Province of North Carolina and employed by Department of Labor of State of North Carolina have inspected the part of a pressure vessel described in this Certificate Data Report on 12/9 19 83, 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 12/9 19 83

Signed [signature] Commissions NC 779, PA,WC0160, OHIO
(National Board, State, Province and No.)

This form (E00210) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, N.Y. 10017

SN # 2877

Page 1 of 2

CERTIFICATE HOLDER'S DATA REPORT FOR NUCLEAR PART AND APPURTENANCES*

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

1. Manufactured by General Electric Co., Castle Hayne Rd., Wilmington, N.C.
(Name and address of NPT Certificate Holder)

2. Manufactured for STOCK
(Name and address of N Certificate Holder for assembled nuclear component)

3. Description of Certificate Holder's Serial No. of Part 1380 Mark No.

(a) Constructed According to Drawing No. 7980228G010 Drawing Prepared by D. L. Peterson

(b) Description of Part Inspected Piston Tube Assembly

(c) Applicable ASME Code Section III, Edition 1971, Addenda date S'73, Code No. — Class 1

4. Remarks Standard part for use with reactor.
(Brief description of service for which component was designed)

Hydrostatically tested at 1825 psi.

NOTE: This Piston Tube Assembly was Hydrostatically

* Number of Sheets - 2 Tested in Control Rod Drive S/N: 7603

We certify that the statements made in this report are correct and this vessel part or appurtenance is 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 the part. 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 9/27 19 84 Signed GE-NEPO-WD By J. Strickenmaker
(NPT Certificate Holder)

Certificate of Authorization Expires June 16, 1987 Certificate of Authorization No. NPT N-1151

CERTIFICATION OF DESIGN FOR APPURTENANCE (when applicable)

Design information on file at GENERAL ELECTRIC CO., SAN JOSE, CALIF.

Stress analysis report on file at GENERAL ELECTRIC CO., SAN JOSE, CALIF.

Design specifications certified by Vernon W. Peirce Prof. Eng. State Calif. Reg. No. 14488

Stress analysis report certified by Vernon W. Peirce Prof. Eng. State Calif. Reg. No. 14488

CERTIFICATE OF SHOP INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and employed by Department of Labor of Raleigh and Province of North Carolina and employed by Department of Labor of the State of North Carolina have inspected the part of a pressure vessel described in this Certificate Holder's Data Report on 9/27, 19 84 and state that to the best of my knowledge and belief, the 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 equipment 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 9/27 19 84

Commissions N.B. 773, N.C. 1768, Ohio
(National Board, State, Province and No.)

This form (E00210) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, N.Y. 10017

SN# 1380

Page 2 of 2

...REPORT FOR NUCLEAR PART AND APPURTENANCES...
...Required by [illegible] of the ASME Code Rules, Section III, Div. 1

...Certificate Holder... General Electric Company, Castle Knob Rd., Wilmington, N.C.
...Manufactured by... STOCK
...Manufacturer's Serial No. of Part... 1380 ...Nat'l Bd. No. ...
(a) Commercial Drawing or Drawing No. 7803D226G010 ...Drawing Prepared by... D. L. Peterson
(b) Description of Part Inspected Piston Tube Assembly
(c) Applicable ASME Code Section III, Edition 1971 ...Addenda date 5'73 ...Code No. ...Case No. 1
(d) Remarks: Finished part for use with Reactor. Hydrostatically tested at 1625 psi
...(Brief description of services for which component was designed)

NOTE: THIS PISTON TUBE ASSEMBLY WAS HYDROSTATICALLY TESTED IN
CONTROL ROD DRIVE S/Nr 7603

1. Cap 187A1234P1
(187A1234)
SA182-F304
3/8 thick x 1 7/16 OD

2. Indicator Tube 104A1136P2
SA312-TP316
3/4 sch 40 seamless pipe
0.113 wall thickness
1.065 nom. dia.

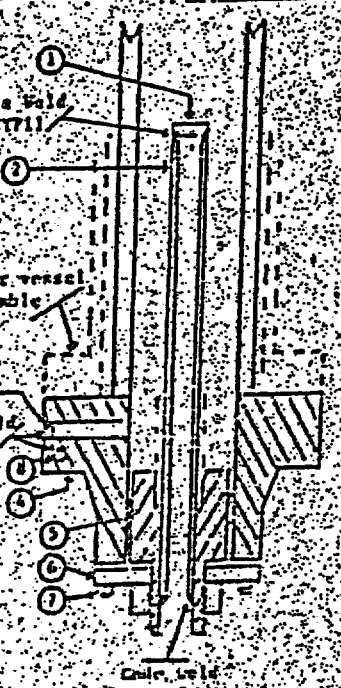
3. Plug 159A1178P1
SA182-F304
1/4 thick x 0.812 OD

4. Flange 919D610P1 (7115-74)
SA182-F304
3.37 thick x 5 5/8 OD
neck 1 1/16 thick x 3.0 OD
2.875 ID

5. Bond 126A3377P1
SA182-F304
7/8 thick x 2.875 Dia.

6. Ring Flange 114A5122P2
SA182-F304
328 thick x 5.0 OD x 1.75 ID

7. Flange 117C4314P2
...75 dia. on 4 1/2 bolt circle
...P1
... x 3.307 dia.



SN # 1380

Page 1 of 2

FORM N-2 NPT CERTIFICATE HOLDER'S DATA REPORT FOR NUCLEAR PART AND APPURTENANCES

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

1. (a) Manufactured by General Electric Co., Castle Hayne Rd., Wilmington, N.C.
(Name and address of NPT Certificate Holder)

(b) Manufactured for [illegible]
(Name and address of N Certificate Holder for assignment of data designation)

2. Name of Section Certificate Holder's Serial No. or Part 3062 Nat'l Bd. No.

(a) Constructed According to Drawing No. 788E286 010 Drawing Prepared by D. L. Peterson

(b) Description of Part Inspected Plenum Tube Assembly

(c) Applicable ASME Code Section III, Edition 1971, Addenda date S'73, Code No. Class 1

3. Remarks Standard part for use with Reactor. Hydrostatically tested at 1875 psi.
(Brief description of services for which component was designed)

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.
(This certificate covers Specifications and Stress Report and the responsibility of the NPT Certificate Holder for parts. An NPT Certificate Holder for appurtenance 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 11/28 19 83 Signed GE, KEPD-NED By J. E. Strickenberger
(NPT Certificate Holder)

Certificate of Authorization Expires June 16, 1984 Certificate of Authorization No. NPT-N-1151

CERTIFICATION OF DESIGN FOR APPURTENANCE (when applicable)

Design information on file at GENERAL ELECTRIC CO., SAN JOSE, CALIF.

Stress analysis report on file at GENERAL ELECTRIC CO., SAN JOSE, CALIF.

Design specifications certified by Vernon W. Peace Prof. Eng. State Calif. Reg. No. 14488

Stress analysis report certified by Vernon W. Peace Prof. Eng. State Calif. Reg. No. 14488

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 or Province of North Carolina and employed by Department of Labor of State of North Carolina, have inspected the part of a pressure vessel described in this Data Report on 11/28 19 83, 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.

Dated 11/28 19 83

[signature] Commissions NC 779, PA, WV 2160, OHIO
(Inspector) (National Board, State, Province and No.)

This form (E00032) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, N.Y. 10017

S/N # 3062

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...ASME PART AND APPURTENANCES...

...to the Provisions of the ASME Code Rules, Section III, Div. 1

...General Electric Company, Castle Hayne Rd., Wilmington, N.C.
(Name and address of N-5 Certificate Holder)

...BWROK
(Name and address of N-5 Certificate Holder for nuclear power island)

...Certificate Holder's Serial No. of Part 3062 Nat'l Bd. No.

...Drawing No. 795D2265D10 Drawing Prepared by D. L. Peterson

...Description of Part Reported Piston Tube Assembly

...Edition 1971, Addenda Date S'73, Code No. Class 1

...Standard part for use with Reactor. Hydrostatically tested at 1825 psi.
(Brief description of service for which component was designed)

1. Cap 167A234P1
(167A243)
SA182-F304
3/8 thick x 1 1/16 OD

2. Deflector Tube 104B1336P2
SA312-TP316
3/4 nom 40-seamless pipe
0.113 wall thickness
3.063 nom. dia.

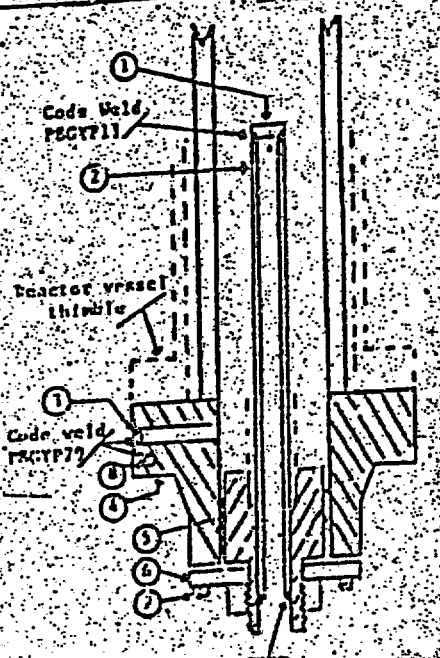
3. Plug 139A1176P1
SA182-F304
1/4 thick x 0.812 OD

4. Flange 819D610P1 (719D474)
SA182-F304
2.37 thick x 9 3/8 OD
with 1 1/16 thick x 5.0 OD
2.875 ID

5. Ferrule 129E3539P1
SA182-F304
...thick x 2.875 Dia.

...Flange 115B2127P2
...x 5.0 OD x 1.75 ID
...SA182-F304
...OD & 1/8 bolt circle

...x 1.302 dia.



SN #3062

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FORM N-2 NPT CERTIFICATE HOLDERS' DATA REPORT FOR NUCLEAR PARTS AND APPURTENANCES*
As required by the Provisions of the ASME Code Rules, Section III, Div. 1

1. (a) Manufactured by General Electric Co., Castle Hayne Rd., Wilmington, N.C.
(Name and address of NPT Certificate Holder)

(b) Manufactured for General Electric Co., San Jose, California (NEBG)
(Name and address of NPT Certificate Holder for completed nuclear components)

2. Identification-Certificate Holder's Serial No. of Part 0637 A Nat'l Bd. No.

(a) Constructed According to Drawing No. 798D228G 010 Drawing Prepared by D. J. Peterson

(b) Description of Part Inspected Pitron Tube Assembly

(c) Applicable ASME Code: Section III, Edition 1977, Addenda date None, Case No. Class 1

3. Remarks: Standard part for use with Reactor. Hydrostatically tested at 1820 psi.
(Brief description of service for which component was designed)

* Number of sheets - 2

QC ACCEPTED 12 COPY

We certify that the statements made in this report are correct and this vessel part or appurtenance 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 9/17 19 80 Signed GE, NEPD-NED-QA By J. E. Thorderman
(NPT Certificate Holder)

Certificate of Authorization Expires June 16, 1981 Certificate of Authorization No. NPT-K-1151

CERTIFICATION OF DESIGN FOR APPURTENANCE (when applicable)

Design information on file at General Electric Co., NEPD-NED-QA, Castle Hayne Rd., Wilmington

Stress analysis report on file at General Electric Co., NEPD-NED-QA, Castle Hayne Rd., Wilmington

Design specifications certified by Vernon W. Pence Prof. Eng. State Calif. Reg. No. 14488

Stress analysis report certified by Vernon W. Pence Prof. Eng. State Calif. Reg. No. 14488

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 or Province of North Carolina and employed by Department of Labor of State of North Carolina have inspected the part of a pressure vessel described on this Partial Data Report on 9/17 80 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 9/17 19 80

Inspector's Signature

Commissions NC 779, PA WC2LEO, OHIO
National Board, State, Province and No.

02-015
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FORM U-2 (back)

Items 6–8 incl. to be completed for single wall vessels, jackets of jacketed vessels, or shells of heat exchangers.

4. Shell: Material _____ T.S. _____ Nominal Thickness _____ in. Corrosion Allowance _____ in. Dia. _____ ft. _____ in. Length _____ ft. _____ in.
(Kind & Spec. No.) (Min. of Range Specified)

5. Seams: Long _____ M.T.[1] _____ R.T. _____ Efficiency _____ %

Girth _____ M.T.[1] _____ R.T. _____ No. of Courses _____

6. Heads: (a) Material _____ T.S. _____ (b) Material _____ T.S. _____

Location (Top, bottom, ends)	Thickness	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Nonprotected Radius	Flat Diameter	Side to Press. (Conv. or Conc.)
(a)								
(b)								

If removable, bolts used _____ Other fastening _____
(Material, Spec. No., T.S., Size, Number) (Describe or attach sketch)

7. Jacket Closure: _____
(Describe as welded, bolt, etc. If bolted give dimensions, if bolted, describe or sketch)

8. Design pressure[1] 1250 psi at 375 °F Drop Weight _____ Charpy Impact _____ ft-lb at temp. of _____ °F

Items 9 and 10 to be completed for tube sections

9. Tube Sheets: Stationary. Material _____ Dia. _____ Thickness _____ in. Attachment _____
(Kind & Spec. No.) (Subject to pressure) (Welded, Bolted)

Floating. Material _____ Dia. _____ Thickness _____ in. Attachment _____

10. Tubes: Material _____ O.D. _____ in. Thickness _____ inches or gage. Number _____ Type _____
(Bw. or U)

Items 11–14 incl. to be completed for inner chambers of jacketed vessels, or channels of heat exchangers.

11. Shell: Material _____ T.S. _____ Nominal Thickness _____ in. Corrosion Allowance _____ in. Dia. _____ ft. _____ in. Length _____ ft. _____ in.
(Kind & Spec. No.) (Min. of Range Specified)

12. Seams: Long _____ M.T.[1] _____ R.T. _____ Efficiency _____ %

Girth _____ M.T.[1] _____ R.T. _____ No. of Courses _____

13. Heads: (a) Material _____ T.S. _____ (b) Material _____ T.S. _____

Location	Thickness	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Nonprotected Radius	Flat Diameter	Side to Press. (Conv. or Conc.)
(a) Top, bottom, ends								
(b) Channel								

If removable, bolts used (a) _____ (b) _____ (c) _____ Other fastening _____
(Describe or attach sketch)

14. Design pressure[1] _____ psi at _____ °F Drop Weight _____ Charpy Impact _____ ft-lb at temp. of _____ °F

Items below to be completed for all vessels where applicable.

15. Safety Valve Outlets: Number _____ Size _____ Location _____

16. Nozzles:

Purpose (Inlet, Outlet, Drain)	Number	Dia. or Size	Type	Material	Thickness	Reinforcement Material	Nom. Allowance

17. Inspection Manholes, No. _____ Size _____ Location _____
Openings: Handholes, No. _____ Size _____ Location _____
Threaded, No. _____ Size _____ Location _____

18. Supports: Skirt _____ Legs _____ Legs _____ Other _____ Attached _____
(Top or Bot.) (Number) (Number) (Describe) (Skirt & Base)

[1] If Governed by Hydrostatic Test

[2] Indicate whether or not design pressure is to be the same as the maximum allowable working pressure.

D637

FORM N-2 NPT CERTIFICATE HOLDERS' DATA REPORT FOR NUCLEAR PART AND APPURTENANCES* Page 1 of 2

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

1. (a) Manufactured by General Electric Co., Castle Hayne Rd., Wilmington, N.C.
(Name and address of NPT Certificate Holder)

(b) Manufactured for STOCK
(Name and address of N Certificate Holder for assembled nuclear component)

2. Identification-Certificate Holder's Serial No. of Part 2074 Nat'l Bd. No.

3. (a) Constructed According to Drawing No. 788D228G 010 Drawing Prepared by D. L. Peterson

(b) Description of Part Inspected Piston Tube Assembly

(c) Applicable ASME Code Section III, Edition 1971, Addenda date W'72, Code No. , Class 1

4. Remarks Standard part for use with Reactor. Hydrostatically tested at 1920 psi.
(Brief description of markings for which component was designed)

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 of the appurtenance as constructed in the component Design Specification and Stress Report.

Date 10/16, 19 81 Signed GE, NEPD-12D (NPT Certificate Holder) By J. E. Strickenberger

Certificate of Authorization Expires November 15, 1981 Certificate of Authorization No. NPT-N-1151

CERTIFICATION OF DESIGN FOR APPURTENANCE (where applicable)

Design information on file at General Electric Co., NEPD-12D Castle Hayne Rd., Wilmington

Stress analysis report on file at General Electric Co., NEPD-12D Castle Hayne Rd., Wilmington

Design specifications certified by Vernon W. Pence Prof. Eng. State Calif. Reg. No. 14488

Stress analysis report certified by Vernon W. Pence Prof. Eng. State Calif. Reg. No. 14488

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 or Province of North Carolina and employed by Department of Labor of State of North Carolina have inspected the part of a pressure vessel described in this Partial Data Report on 10/15 19 81, 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 10/16 19 81

Inspector's Signature Commissions N.C. 723, PA WC1766, OHIO
(National Board, State, Province and No.)

10/77 This form (ECCD-401) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, N.Y. 10017

SN# 2074

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 General Electric Company, Castle Hayne Rd., Wilmington, N.C.
(Name and address of NPT Certificate Holder)

(b) Manufactured for STOCK
(Name and address of N Certificate Holder for component or appurtenance)

2. Identification-Certificate Holder's Serial No. or Part 2074 Nat'l Bd. No.

(a) Constructed According to Drawing No. 796D228G010 Drawing Prepared by D. L. Peterson

(b) Description of Part Inspected Piston Tube Assembly

(c) Applicable ASME Code Section III, Edition 1971, Addenda date W'72, Code No. Class 1

3. Remarks Standard part for use with Reactor. Hydrostatically tested at 1820 psi
(Brief description of service for which component was designed)

* Number of sheets - 2

1. Cap 167A2234P1
(167A2234)
SA182-F304
3/8 thick x 1 1/16 OD

2. Indicator Tube 104D1337P1
SA312-TP316
3/4 sch 40-seamless pipe
0.113 wall thickness
1.065 max. O.D.

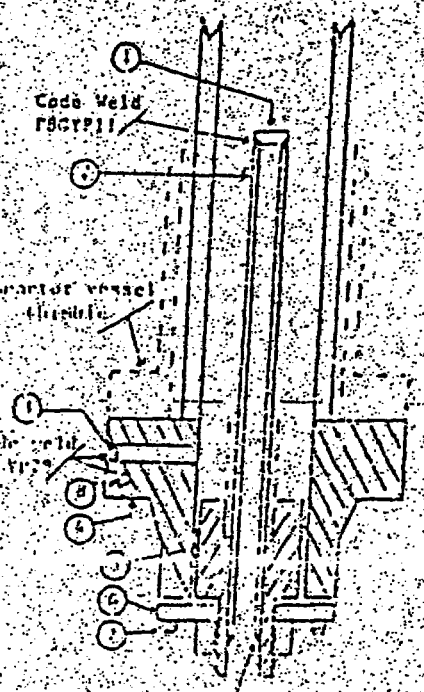
3. Plug 139A1126P1
SA182-F304
1/4 thick x 0.812 OD

4. Flange 919D610P1 (7[illegible]
SA182-F304
3.37 thick x 9 5/8 OD
neck 1 1/16 thick x 5.0 OD
2.875 ID

5. Head [illegible]
SA182-F304
3/8 thick x 2.375 [illegible]

6. Ring Flange [illegible]
SA182-F304
1" thick x [illegible]

7. Pipe [illegible]
SA [illegible]
0.75 thick x 1.50 [illegible]



SN II 2074

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. Manufactured & Certified by : General Electric Company Nuclear Energy (GE-NE)
3901 Castle Hayne Road, Wilmington, North Carolina 28401
(Name and Address of NPT Certificate Holder)

(b) Manufactured for : Fermi-2 Newport, Michigan 48166
(Name and Address of N Certificate Holder for completed nuclear component)

2. Identification - Certificate Holder's S/N of Part : 0378 ✓ Nat'l Bd. No. : N/A

(a) Constructed According to Drawing No: 788D228G012 Rev 35 Dwg. Prepared by D.L. Peterson

(b) Description of Part Inspected: Piston Tube Assembly

(c) Applicable ASME Code: Section III , Edition 1974 , Addenda Date W75 , Case No. 1361-2 Class 1

3. REMARKS: Standard part for use with Reactor. Hydrostatically tested at 1825 psi min.
(Brief description of service for which component was designed)

Sheet 1 of 1

We certify that the statements 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 Designed Specification and Stress Report are not the responsibility of the NPT Certificate Holder for parts. An NPT Certification 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: 01/16/96 Signed GE-NE By
(NPT Certificate Holder) (QA Representative)

Certificate of Authorization Expires: 6/16/96 Certification of Authorization No. : NPT-N-1151

Certification of Design for Appurtenance

Design information on file at GE Company, San Jose, California

Stress analysis report on file at GE Company, San Jose, California

DC22A6253 Rev. 2
Design specification certified by B.N. Sridhar Prof. Eng. State Calif. Reg. No. 18245

DC22A6254 Rev 1
Stress analysis report certified by Edward Yoshio Prof. Eng. State Calif. Reg. No. M018640

Certification of Shop Inspection

I, the undersigned, holding a valid commission by the National Board of Boiler and Pressure Inspectors and/or the State or Province of North Carolina and employed by Department of Labor of State of North Carolina have inspected the part of a pressure vessel described in this Partial Data Report on 1/16, 1996 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 the Partial Data Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damages or a loss of any kind arising from or connected with this inspection.

1/16, 1996 James P Ewen NC 1231, Ohio, WC 3595 PA
Date Inspector's Signature National Board, State, Province And No.

*Supplemental sheets in form of lists, sketches or drawing may be used provided (1) size is 8-1/2" x 11", (2) information in 1-2 on this Data Report is included on each sheet, and (3) each sheet is numbered and number of sheets is recorded in Item 3. "REMARKS".

(w/m)

SN# 378

02-015

FORM U-2 (back)

Items 4-8 Incl. to be completed for single wall vessels, jackets vessels, or shells of heat exchangers.

4. Shell: Material _____ T.S. _____ Nominal Thickness ___ in. Corrosion Allowance ___ in. Dia. ___ ft. ___ in. Length ___ ft. ___ in.
(Kind & Spec. No.) (Min. of Range Specified)

5. Seams: Long _____ H.T.[1] _____ R.T. _____ Efficiency _____ %
Girth _____ H.T.[1] _____ R.T. _____ No. of Courses _____

6. Heads: (a) Material _____ T.S. _____ (b) Material _____ T.S. _____

Location (Top, Bottom, Ends)	Thickness	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Press. (Conv. or Conc.)
(a)								
(b)								

If removable, bolts used _____ (Material, Spec. No., T.S. Size Number) Other fastening _____ (Describe or sketch details)

7. Jacket Closure: _____
(Describe as agee and weld, bar, etc. If bar give dimensions, if bolts, describe or sketch)

Drop Weight _____
Charpy Impact _____ ft. lb.

8. Design pressure 1250 psi at 575 F at temp of _____

Items 9 and 10 to be completed for tube sections

9. Tube Sheets: Stationary. Material _____ (Kind & Spec. No.) Dia. _____ (Subject to pressure) Thickness ___ in. Attachment _____ (Welded, Bolted)
Floating. Material _____ Dia. _____ Thickness ___ in. Attachment _____

10. Tubes: Material _____ O.D. _____ in. Thickness _____ Inches or gage Number _____ Type _____ (Welded)

Items 11 - 14 incl. to be completed for inner chambers of jacketed vessels, or channels of heat exchangers.

11. Shell: Material _____ T.S. _____ Nominal Thickness ___ in. Corrosion Allowance ___ in. Dia. ___ ft. ___ in. Length ___ ft. ___ in.
(Kind & Spec. No.) (Min. of Range Specified)

12. Seams: Long _____ H.T.[1] _____ R.T. _____ Efficiency _____ %
Girth _____ H.T.[1] _____ R.T. _____ No. of Courses _____

13. Heads: (a) Material _____ T.S. _____ (b) Material _____ T.S. _____

Location	Thickness	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Press. (Conv. or Conc.)
(a) Top, bottom, ends								
(b) Channel								

If removable, bolts used (a) _____ (b) _____ (c) _____ Other fastening _____ (Describe or sketch details)

Drop Weight _____
Charpy Impact _____ ft. lb.

14. Design pressure[2] _____ psi at _____ F at temp of _____

Items below to be completed for all vessels where applicable.

15. Safety Valve Outlets: Number _____ Size _____ Location _____

16. Nozzles:

Purpose (Inlet, Outlet, Drain)	Number	Dia. or Size	Type	Material	Thickness	Reinforcement Material	Type Attachment

17. Inspection Openings: Manholes, No. _____ Size _____ Location _____
Handholes, No. _____ Size _____ Location _____
Threaded, No. _____ Size _____ Location _____

18. Supports: Skirt _____ (Yes or No) Lugs _____ (Number) Legs _____ (Number) Other _____ (Describe) Attached _____

1 - If Postweld Heat-Treated.
2 - Use other internal or external pressure with coincident temperature when applicable.

SN 378

02015

FORM N-2 NPT CERTIFICATE HOLDERS' DATA REPORT FOR NUCLEAR PARTS AND APPURTENANCES
As required by the Provision of the ASME Code Rules, Section III, Div. 1

1. Manufactured & Certified by : General Electric Company Nuclear Energy (GE-NE)
3301 Castle Hayne Road, Wilmington, North Carolina 28401
(Name and Address of NPT Certificate Holder)

(b) Manufactured for : Fermi - 2 Newport, Michigan 48166
(Name and Address of N Certificate Holder for completed nuclear component)

2. Identification - Certificate Holder's S/N of Part : 0378 Nat'l Bd. No. : N/A

(a) Constructed According to Drawing No: 798D228G012 Rev 35 Dwg. Prepared by D. L. Peterson

(b) Description of Part Inspected: Piston Tube Assembly

(c) Applicable ASME Code: Section III , Edition 1974 . Addenda Date W75 . Case No.: 1361-2 Class 1

3. REMARKS: Standard part for use with Reactor. Hydrostatically tested at 1625 psi. min.
(Brief description of service for which component was designed)

Sheet 2 of 3

1. Cap 16A1825G02P001
SA182 - F316
3/8" thick x 1 1/16" OD

2. Indicator Tube 16A1825G03P001
SA312 - TP316
3/4" sch 40 - ex. heat pipe
0.113" wall thickness
1.055" max. dia.

3. Plug 153A1178P001
SA182 - F304
1/4" thick x 6.812" OD

4. Flange 819D610P001 (7135474)
SA182 - F304
3.37" thick x 8 5/8" OD

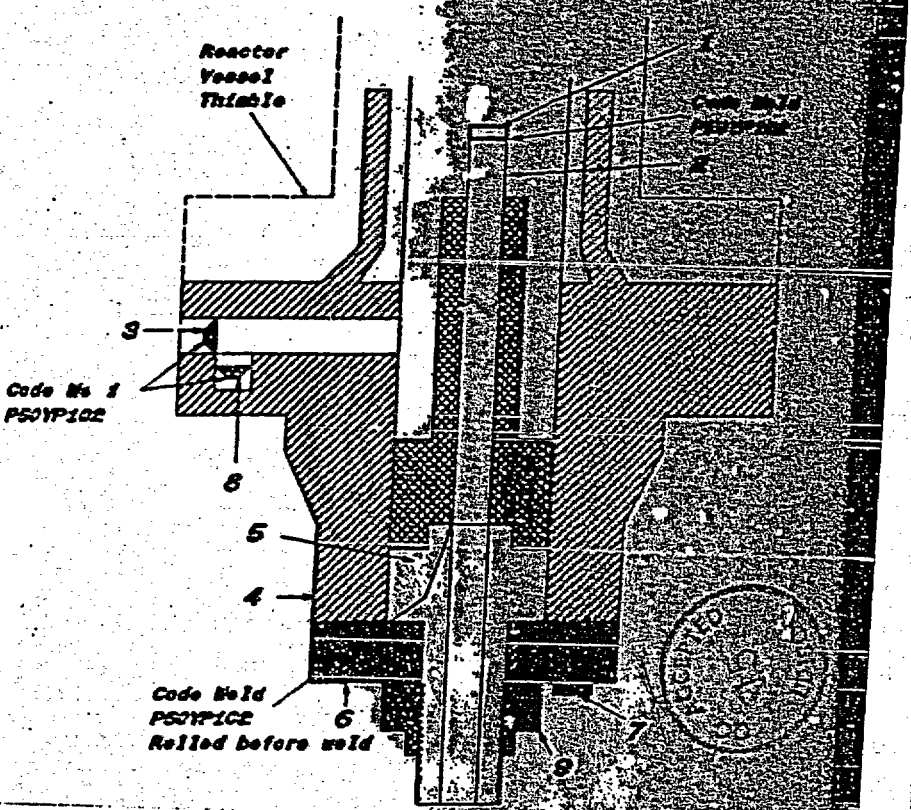
5. Head 129B3539P005
SA182 - F304
7/8" thick x 2.875" dia.

6. Ring Flange 114B5122P002
SA182 - F304
1" thick x 5.0" OD x 1.75" ID

7. Cap Screw 117C4516P002
SA193 - B6
6 ea. 1/2" dia. on 4 1/8" bolt circle

8. Plug 175A7961P001
SA182 - F304
0.3" thick x 1.307" dia.

9. Nut 114B5160P001
XM - 19 SA479
1.30" thick x 2.62" dia.



Page 1 of 2

NPT CERTIFICATE HOLDER'S DATA REPORT FOR NUCLEAR PARTS AND APPURTENANCES

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

1. Manufactured by General Electric Co., Castle Hayne Rd., Wilmington, N.C.
(Name and address of NPT Certificate Holder)

2. Manufactured for STOCK
(Name and address of N Certificate Holder for assembled boiler components)

3. Identification of Certificate Holder's Series No. of Part 1374 Nat'l Bd. No.

4a. Constructed According to Drawing No. 7953D2850G010 Drawing Prepared by D. L. Peterson

4b. Description of Part Inspected Piston Tube Assembly

5. For Applicable ASME Code Section III, Edition 1971, Addenda date S'73, Case No. — Class 1

6. Remarks Standard part for use with reactor.
(Brief description of service for which component was designed)
Hydrostatically tested at 1825 psi.

NOTE: This Piston Tube Assembly was Hydrostatically

* Number of Sheets - 2 Tested Li Control Rod Drive S/N: 9238

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 Specifications 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 numerical Design Specification and Stress Report if the appurtenance is not included in the component Design Specification and Stress Report.)

Date 9/27 19 84 Signed GE-REPO-KD By J. E. Strickland
(NPT Certificate Holder)

Certificate of Authorization Expires June 16, 1987 Certificate of Authorization No. NPT N-1151

CERTIFICATION OF DESIGN FOR APPURTENANCE (when applicable)

Design Information on file at GENERAL ELECTRIC CO., SAN JOSE, CALIF.

Stress analysis report on file at GENERAL ELECTRIC CO., SAN JOSE, CALIF.

Design specifications certified by Vernon M. Pence Prof. Eng. State Calif. Reg. No. 14498

Stress analysis report certified by Vernon M. Pence Prof. Eng. State Calif. Reg. No. 14498

CERTIFICATE OF SHOP 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 North Carolina and employed by Department of Labor of North Carolina have inspected the part of a pressure vessel described in this Data Report on 9/27 19 84 and state that to the best of my knowledge and belief, the Certificate Holder has constructed this part in accordance with the ASME Code Section III. By signing this certificate, neither I, the Inspector nor his employer makes any warranty, expressed or implied, concerning the equipment described in this Partial Data Report. Furthermore, neither I, 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 9/27 19 84

N.C. 723, PA WC1766, OHIO

Commissions
(National Board, State, Province and No.)

(Data Sheets available (in sizes up to 8½" x 11") from the Order Dept., ASME, 345 E. 47th St., New York, N.Y. 10017)

SNE 1374

Page 1 of 1

...FOR NUCLEAR PART AND APPURTENANCES...
...Code, Section III, Div. 1

..., Carlyle Engrg Rd., Ellington, N.C.

...1374 ... Shop Ref. No. ...

(3) ... Drawing No. 7561228010 ... Drawing Prepared by D. L. Peterson

(4) ... Part Designed Motor Tube Assembly

(5) ... Code Edition 1971 ... Addenda date S'73 ... Code No. ... Class 1

6. ... part for use with Reactor. Hydrostatically tested at 1825 psi.

7. REMARKS: THIS FIXTION TUBE ASSEMBLY WAS HYDROSTATICALLY TESTED IN ...

8. 1" CONTROL ROD DRIVE S/N: 5238

9A.

1. Cap 167A2343P1
(167A2343)
SA182-F304
3/8 thick x 1 1/16 OD

2. Indicator Tube 104B1.36P1
SA312-TP316
3/4 sch 40-seamless pipe
0.113 wall thickness
1.055 nom. dia.

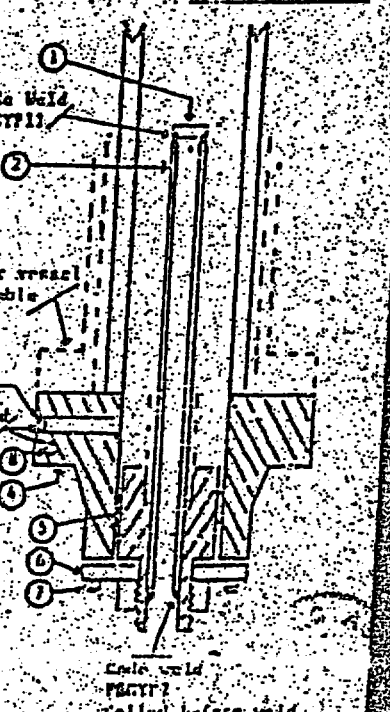
3. Plug 159A1176P1
SA182-F304
2 1/4 thick x 0.812 OD

4. Flange 919D610P1 (719D72)
SA182-F304
2.37 thick x 5 3/8 OD
with 1 1/16 thick x 3.0 ID
2.875 ID

5. Bend 125B2537P1
SA358-F304
... thick x 2.875 dia.

... Flange 114B5122P1
...
... x 5.0 OD x 1.13 ID

... 2176A516P2
... dia. on 4 1/8 bolt circle
...
...P1
... x 2.2537 dia.



SN # 1374

Page 1 of 2

DATA REPORT FOR NUCLEAR PARTS AND APPURTENANCES

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

1. (a) Part manufactured by General Electric Co., Castle Rayne Rd., Wilmington, N.C.
(Name and address of NPT Certificate Holder)

(b) Part furnished for STOCK
(Name and address of N Certificate Holder for assembled Stamped component)

2. Manufacturer's Certificate Holder's Serial No. or Part 1709 Nat'l Bd. No.

(a) Component According to Drawing No. 7980228G010 Drawing Prepared by D. L. Peterson

(b) Description of Part Inspected Piston Tube Assembly

(c) Applicable ASME Code Section III, Edition 1971, Addenda date S'73, Case No. —, Class 1

3. Remarks: Standard part for use with reactor.
(Brief description of service for which component was designed)

Hydrostatically tested at 1825 psi.

NOTE: This Piston Tube Assembly was Hydrostatically

4. Number of Sheets - 2 Tested in Control Rod Drive S/N: 8338

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 Design Specification and Stress Report if the appurtenance is not included in the component Design Specification and Stress Report.)

Date 9/27 19 84 Signed GE-NEPO-R.O. By J. E. Strickland
(NPT Certificate Holder)

Certificate of Authorization Expires June 16, 1987 Certificate of Authorization No. NPT N-1151

CERTIFICATION OF DESIGN FOR APPURTENANCE (when applicable)

Design information on file at GENERAL ELECTRIC CO., SAN JOSE, CALIF.

Stress analysis report on file at GENERAL ELECTRIC CO., SAN JOSE, CALIF.

Design specifications certified by Vernon N. Peirce Prof. Eng. State Calif. Reg. No. 14488

Stress analysis report certified by Vernon N. Peirce Prof. Eng. State Calif. Reg. No. 14488

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 or Province of North Carolina and employed by Department of Labor of State of North Carolina have inspected the part of a pressure vessel described in this Partial Data Report on 9/27 19 84 and state that to the best of my knowledge and belief, the N 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 equipment 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 9/27 19 84

N.C. 723, PA WC1766, OHIO

Commissions
(National Board, State, Province and No.)

This form (E00210) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, N.Y. 10017

SN# 1709

Page 1 of 2

...ASME Code Section III, Div. 1

...General Electric Company, Cascade Range Rd., Wilmington, N.C.

...ESCO

...3709

...7500228010 ... D. L. Peterson

...Piston Tube Assembly

...1971 ... S'73 ... 1

...Standard part for use with Reactor. Hydrostatically tested at 1825 psi.

NOTE: THIS PISTON TUBE ASSEMBLY WAS HYDROSTATICALLY TESTED IN CONTROL ROD DRIVE S/Ns 8338

1. Cap 167A2343P1
   (167A2343)
   SA182-F304
   3/8 thick x 1 1/16 OD

2. Collector Tube 104B1338P2
   SA312-TP316
   3/4 sch 40 seamless pipe
   0.113 wall thickness
   1.049 nom. dia.

3. Plug 158A1176P1
   SA182-F304
   3/4 thick x 0.812 OD

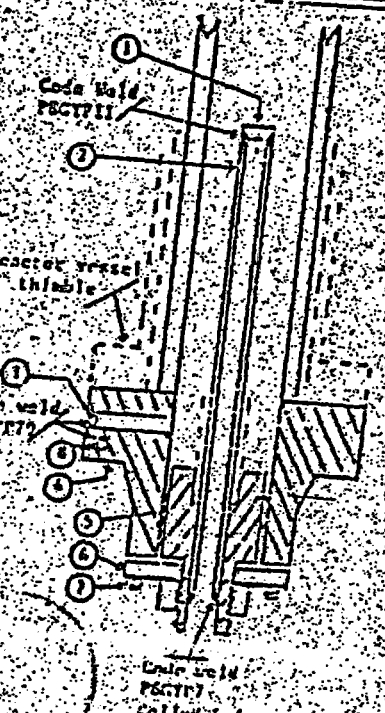
4. Flange 819A5101P1 (7193-14)
   SA182-F304
   3.37 thick x 5 3/8 OD
   Each 1 1/16 thick x 3.0 OD
   2.875 ID

5. Seal 139B1339P1
   SA182-F304
   3/8 thick x 2.875 dia.

6. Ring Flange 114B5112P1
   SA182-F304
   thick x 5.0 OD x 1.75 ID

7. Screw 117A5118P2
   SA193-B8
   1/2 dia. on 6 1/8 bolt circle
   (1/2-13)

8. [illegible]
   [illegible] thick x 1.327 dia.



SN#1709

02-016

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

1. Owner: Detroit Edison Company (Name) — Date: May 3,, 2003
   6400 North Dixie Highway, Newport MI 48166 (Address) — Sheet: 1 of 1
2. Plant: Fermi 2 Nuclear Power Plant (Name) — Unit: 2
   6400 North Dixie Highway, Newport MI 48166 (Address)
   Deco Maintenance (Repair Organization P.O. No., Job No., etc.)
3. Work Performed by: Detroit Edison Company (Name) — Type Code Symbol Stamp: N/A
   6400 North Dixie Highway, Newport, MI 48166 (Address) — Authorization No.: N/A — Expiration Date: N/A
4. Identification of System: Main Steam Line Drain Pipe Support N30-2186-G18
5. (a) Applicable Construction Code: AISC 6th and 7th Edition ____ Edition N/A Addenda, N/A Code Case
   (b) Applicable Edition/Addenda of Section XI Utilized for Repairs or Replacements: 1992-92 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)
N30-2186-G18	Wismer & Becker	N/A	N/A	N/A	1984	Replaced	N

7. Description of Work: Replace existing pipe support clamp for support N30-2186-G18 with a pipe attachment designed per ERE-31931 to prevent/restrict clamp rotation on pipe.
8. Tests Conducted: Hydrostatic [ ] Pneumatic [ ] Nominal Operating Pressure [ ]
   Other [X] Pressure _____ psi Test Temp._____ °F

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.

(10/94)

Form NIS-2 (Back)

9. Remarks: New baseline inspection performed. Material utilized ¾" plate A36, Ht# U1192/39A, PO # 385500-01, (2)-2" U-Bolts- Ht # 7910A, PO # 380087.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this Replacement conforms to the rules of theASME Code, Section XI.

Type Code Symbol Stamp Original Construction records for N30-2186-G18 to be supplemented by Owners Section XI Program #02-016

Certificate of Authorization No. N/A Expiration Date N/A

Signed R.M. Hambleton Lead ISI Engineer Date 5-3-2003 May 3, 2003

Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE 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 Michigan and employed by HSB CT of One State Street, Hartford, CT 06102 have inspected the components described in this Owner's Report during the period 9-18-02 to 5-20-03, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's 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 Owner's 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.

Commissions NB9480 ASENNS MI610

Inspector's Signature

National Board, State, Province, and Endorsements

Date May 20 20 03

(10/94)

For complete work package, see Work Request 000Z021044

02-017

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

1. Owner: Detroit Edison Company (Name) — Date: July 25, 2003
   6400 North Dixie Highway, Newport MI 48166 (Address) — Sheet: 1 of 2
2. Plant: Fermi 2 Nuclear Power Plant (Name) — Unit: 2
   6400 North Dixie Highway, Newport MI 48166 (Address)
   *Deco Maintenance (Repair Organization P.O. No., Job No., etc.)
3. Work Performed by: *Detroit Edison Company (Name) — Type Code Symbol Stamp: N/A
   6400 North Dixie Highway, Newport, MI 48166 (Address) — Authorization No.: N/A — Expiration Date: N/A
4. Identification of System: N5-0246 & 0307 Residual Heat Removal System Division 2
5. (a) Applicable Construction Code: ASME III, Class 2 19 71 Edition S'72 Addenda N/A Code Case
   (b) Applicable Edition/Addenda of Section XI Utilized for Repairs or Replacements: 1992-92 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)
E1100F025B	Crosby	N57381-00-002	N/A	V22-2041	1978	Replacement	Y

7. Description of Work: Install replacement disc in relief valve due to identified pitting of disc seating surface.
8. Tests Conducted: Hydrostatic [ ] Pneumatic [ ] Nominal Operating Pressure [X]
   Other [X] Pressure _____ psi Test Temp._____

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.

(10/94)

Form NIS-2 (Back)

9. Remarks: Replacement Disc assembly procurred per239415-01, Serial No. N90574-42-0017 (Report Attached). Valve returned to stock as a tested spare for future replacement. *Valve refurbishment completed per PO# 371508 @ NWS.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this Replacement conforms to the rules of theASME Code, Section XI.

Type Code Symbol Stamp Original Code data report N5-0246 and -0307 to be supplemented by Owners Section XI Program 02-017

Certificate of Authorization No. N/A Expiration Date N/A

Signed R.M. Hambleton Lead ISI Engineer Date July 25 ,2003
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE 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 Michigan and employed by HSB CT of One State Street, Hartford, CT 06102 have inspected the components described in this Owner's Report during the period 09-19-02 to 07-28-03, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's 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 Owner's 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.

Commissions NB 6010
Inspector's Signature National Board, State, Province, and Endorsements

Date July 28 2003

(10/94)

For complete work package, reference PO #371508

NIS-2 E1100F025
02-017
SHEET 2 OF 2

CROSBY

CROSBY VALVE & GAGE COMPANY
WRENTHAM, MASS

Q.C.-382
Form N-2

FORM N-2 N OR NPT CERTIFICATE HOLDERS' DATA REPORT FOR IDENTICAL NUCLEAR PARTS AND APPURTENANCES*
As Required by the Provisions of the ASME Code, Section III, Division 1
Not to Exceed One Day's Production

Pg 1 of 1

1. Manufactured and certified by Crosby Valve & Gage Co., 43 Kendrick St., Wrentham, MA 02093
(name and address of certificate holder)

2. Manufactured for Detroit Edison Company Detroit MI
(name and address of purchaser)

3. Location of installation Detroit Edison NOS-EMM-EPSD-EF2 Site 6400 Dixie Hwy Newport MI
(name and address)

4. Type DS-C-57381 (drawing no.) ASME SA479 T304 (mat'l spec no.) 9T 800 (tensile strength) — (CRN) 1991 (year built)

5. ASME Code, Section III 1971 (edition) Summer 1972 (addenda) 2 (class) — (Code Case no.)

6. Fabricated in accordance with Const. Spec. (Div. 2 only) — (No.) Revision — Date —

7. Remarks:

8. Nom. thickness (in.) — Min. design thickness (in.) — Dia. ID (ft. & in.) — Length overall (ft. & in.) —

9. When applicable, Certificate Holders' data reports are attached for each item of this report:

Part or Appurtenance Serial Number	National Board No. In Numerical Order	Part or Appurtenance Serial Number	National Board No. In Numerical Order
(1) N90574-42-0017		(26)	
(2) N90574-42-0018		(27)	
(3)		(28)	
(4)		(29)	
(5)		(30)	
(6)		(31)	
(7)		(32)	
(8)		(33)	
(9)		(34)	
(10)		(35)	
(11)		(36)	
(12)		(37)	
(13)		(38)	
(14)		(39)	
(15)		(40)	
(16)		(41)	
(17)		(42)	
(18)		(43)	
(19)		(44)	
(20)		(45)	
(21)		(46)	
(22)		(47)	
(23)		(48)	
(24)		(49)	
(25)		(50)	

10. Design pressure — psi Temp. — °F. Hydro. test pressure — (when applicable) at temp. °F.

Form N-2

FORM N-2 (back)

Mfr. Serial No. N90574-42-0017
N90574-42-0018

CERTIFICATION OF DESIGN

Design specification certified by Ron Adler (when applicable) P.E. state MI Reg. No. 28412

Design report certified by ---- (when applicable) P.E. state ---- Reg. No. ---

CERTIFICATE OF SHOP COMPLIANCE

We certify that the statements made in this report are correct and that this (these) Disc Insert conform to the rules of construction of the ASME Code, Section III.

NPT Certificate of Authorization no. N-1877 Expires 9/30/92

Date Jan 21, 1991 Name Crosby Valve & Gage Co. (NPT Certificate Holder) Signed Lawrence Lees (Authorized representative)

CERTIFICATE OF SHOP 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 Massachusetts and employed by *See Below of Norwood, MA have inspected these items described in this data report on Jan 22, 1991 and state that to the best of my knowledge and belief, the Certificate Holder has fabricated these parts or appurtenances in accordance with the ASME Code, Section III. Each part listed has been authorized for stamping on the date shown above.

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 loss of any kind arising from or connected with this inspection.

Factory Mutual System

Date 1-22-91 Signed [signature] (Authorized Inspector) Commissions MA 1207 (Nat'l Bd (incl. endorsements) state or prov. and no.)

*Arkwright Mutual Insurance Company

02-019

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

1. Owner: Detroit Edison Company (Name)
   6400 North Dixie Highway, Newport MI 48166 (Address)
   Date: January 7, 2003
   Sheet: 1 of 1
2. Plant: Fermi 2 Nuclear Power Plant (Name)
   6400 North Dixie Highway, Newport MI 48166 (Address)
   Unit: 2
   Deco Maintenance (Repair Organization P.O. No., Job No., etc.)
3. Work Performed by: Detroit Edison Company (Name)
   6400 North Dixie Highway, Newport, MI 48166 (Address)
   Type Code Symbol Stamp: N/A
   Authorization No.: N/A
   Expiration Date: N/A
4. Identification of System: RCIC Turbine Exhaust line Pipe Support E51-3174-G07
5. (a) Applicable Construction Code: AISC 6th and 7th Edition 19 NA Edition N/A Addenda, N/A Code Case
   (b) Applicable Edition/Addenda of Section XI Utilized for Repairs or Replacements: 1992-92 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)
E51-3174-G07	Wismer & Becker	N/A	N/A	N/A	1984	Replaced	Y

7. Description of Work: Modify existing pipe support structural steel to allow installation of a new motor on valve E5150F001 per TSR/EDP- 32288
8. Tests Conducted: Hydrostatic [ ] Pneumatic [ ] Nominal Operating Pressure [ ]
   Other [X] Pressure _____ psi Test Temp._____ °F

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.

(10/94)

Form NIS-2 (Back)

9. Remarks: New baseline inspection performed. New 4x4 tube steel, Ht # 966772, procurred per PO# 318436, and ¼" plate, Ht# 170447D, procurred per PO # 335189.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this Replacement conforms to the rules of theASME Code, Section XI.

Type Code Symbol Stamp Original Construction recore for E51-3174-G07 to be supplemented by Owners Section XI Program #02-019

Certificate of Authorization No. N/A Expiration Date N/A

Signed R.M. Hambleton Lead ISI Engineer Date JANUARY 7 ,20 03
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE 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 Michigan and employed by HSB CT of One State Street, Hartford, CT 06102 have inspected the components described in this Owner's Report during the period 12-5-02 to 01-07-03, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's 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 Owner's 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.

Commissions NB9480 MI A5855 MI6010
Inspector's Signature
National Board, State, Province, and Endorsements

Date Jan. 7 20 03

(10/94)

For complete work package, see Work Request 000Z023784

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

1. Owner: Detroit Edison Company (Name) — Date: May 23, 2003
   6400 North Dixie Highway, Newport MI 48166 (Address) — Sheet: 1 of 2
2. Plant: Fermi 2 Nuclear Power Plant (Name) — Unit: 2
   6400 North Dixie Highway, Newport MI 48166 (Address)
   Deco Maintenance (Repair Organization P.O. No., Job No., etc.)
3. Work Performed by: Detroit Edison Company (Name) — Type Code Symbol Stamp: N/A
   6400 North Dixie Highway, Newport, MI 48166 (Address) — Authorization No.: N/A — Expiration Date: N/A
4. Identification of System: (N5-J120-N5-1) Control Rod Drive System
5. (a) Applicable Construction Code: ASME III, Class 1 19 71 Edition '71 Addenda N/A Code Case
   (b) Applicable Edition/Addenda of Section XI Utilized for Repairs or Replacements: 1992-92 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)
CRD Housing Bolting	RCI	N5-J120-N5-1	N/A	See Matrix	1975	Replacement	N
Control Rod Drive Mechanisms	General Electric	See Matrix	N/A	See Matrix	1975	Replacement	Y

7. Description of Work: Replaced Control Rod Drive Mechanisms at various locations and installed replacement Cap Screws on each mechanism to facilitate drive installation. All removed bolting was inspected and stored for future installation.
8. Tests Conducted: Hydrostatic [ ] Pneumatic [ ] Nominal Operating Pressure [X]
   Other [X] Pressure _____ psi Test Temp._____ °F

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.

9. Replacement bolting (Cap Screws procured per PO # 363782, 362633 and 363784.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this Replacement conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp Original Code data report N5-J120-N5-1 to be supplemented by Owners Section XI Program 03-001

Certificate of Authorization No. N/A Expiration Date N/A

Signed R.M. Hambleton Lead ISI Engineer Date MAY 23 ,20 03
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE 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 Michigan and employed by HSB CT of One State Street, Hartford, CT 06102 have inspected the components described in this Owner's Report during the period 4/15/2003 to May 28, 2003, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's 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 Owner's 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.

Commissions NB9480 ABINNS MI1010
Inspector's Signature — National Board, State, Province, and Endorsements

Date May 28 2003

(10/94)

For complete work packages, see Work Requests listed on attached matrix.

NIS-2 03-001 Sheet 2 of 2

Nis-2 Attsachment for Section XI Program No. 03-001 – RF09 CRDM Exchange

- Replacement bolting (Cap Screws) were replaced on each drive mechanism installed (8 per drive). Replacement Cap Screws were procurred per PO # 363782,HT Code 14761, PO # 362633, HT Code 84587/F280, and PO # 36378, HT Code 8995873. ASME III - Class 1, SA193 Grade B7, 1"-8UNC-2A x 5-1/2"
- New Serial are based on the locations requested prior to the outage and were verified during installation.

CRDM	Serial No.	New Serial No.	Exchange WR	NewCap Screws PO# - Ht # - (Qty)
14-55	6397	6086	000Z020645	362633-84587/F280
06-27	3410	4512	000Z021058	362633-84587/F280
10-27	4189	4006	000Z021060	362633-84587/F280
14-51	4584	6475	000Z021062	362633-84587/F280
30-39	4488	6387	000Z021048	362633-84587/F280
14-11	4459	6507	000Z021064	363784 – 8995873(6) 363782 – 14761(1) 362633-84587/F280(1)
26-11	4523	4408	000Z021066	363782 - 14761
22-15	3608	6180	000Z021068	363782 - 14761
06-31	6541	5545	000Z021070	362633-84587/F280
30-31	3326	3152	000Z021050	362633-84587/F280
58-19	3623	5752	000Z021072	363782 - 14761
54-27	4286	4406	000Z021074	363782 - 14761
30-59	5655	3339	000Z021089	362633-84587/F280
42-55	4436	6172	000Z021052	362633-84587/F280
34-47	4315	6125	000Z021091	362633-84587/F280
38-47	4391	5950	000Z021093	362633-84587/F280
42-35	3521	3180	000Z021095	363782 - 14761
58-23	4330	6412	000Z021097	363782 - 14761
38-07	4312	4590	000Z021054	363782 – 14761(6) 362633-84587/F280(2)
50-19	3999	5451	000Z021099	363782 - 14761
54-43	4309	5423	000Z021101	363782 - 14761
58-35	4340	4524	000Z021103	363782 - 14761
34-15	7019	5770	000Z021056	363782 - 14761

03-002

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

1. Owner: Detroit Edison Company (Name) — Date: April 15, 2003
   6400 North Dixie Highway, Newport MI 48166 (Address) — Sheet: 1 of 3
2. Plant: Fermi 2 Nuclear Power Plant (Name) — Unit: 2
   6400 North Dixie Highway, Newport MI 48166 (Address)
   Deco Maintenance (Repair Organization P.O. No., Job No., etc.)
3. Work Performed by: Detroit Edison Company (Name) — Type Code Symbol Stamp: N/A
   6400 North Dixie Highway, Newport, MI 48166 (Address) — Authorization No.: N/A — Expiration Date: N/A
4. Identification of System: Fuel Pool Cooling and Clean-up to RHR Return Line
5. (a) Applicable Construction Code: ASME III, Class 3 19 92 Edition 92 '71 Addenda (Valve) N/A Code Case
   (b) Applicable Edition/Addenda of Section XI Utilized for Repairs or Replacements: 1992-92 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)
G4100F231	Wismer & Becker	D133T-1-1	N/A	V30-1237	2001	Replacement	Y

7. Description of Work: Modify existing piping system by installing a new throttle valve per EDP – 30467
8. Tests Conducted: Hydrostatic [x] Pneumatic [ ] Nominal Operating Pressure [ ]
   Other [ ] Pressure 248 / 570 psi Test Temp. 83.1 °F

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.

(10/94)

Form NIS-2 (Back)

9. Remarks: Replacement valve procurred per PO # 351078 and was supplied complete with 8" x 6" Schedule 40 welded reducers on both ports.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this Replacement conforms to the rules of theASME Code, Section XI.

Type Code Symbol Stamp Original Code data report to be supplemented by Owners Section XI Program 03-002

Certificate of Authorization No. N/A Expiration Date N/A

Signed R.M. Hambleton Lead ISI Engineer Date April 15 ,20 03
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE 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 Michigan and employed by HSB CT of One State Street, Hartford, CT 06102 have inspected the components described in this Owner's Report during the period 02-06-03 to 04-15-2003, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's 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 Owner's 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.

Commissions NB9486 ARINNS MI1010

Inspector's Signature

National Board, State, Province, and Endorsements

Date April 15 2003

(10/94)

For complete work package, see Work Request 000Z002161

FORM NPV-1 CERTIFICATE HOLDERS' DATA REPORT FOR NUCLEAR PUMPS OR VALVES*

As Required by the Provisions of the ASME Code, Section III, Division 1

PROGRAM 03-02

Flowserve Corporation

1. Manufactured and certified by 701 First Street, Williamsport, PA 17701
(name and address of N Certificate Holder)

2. Manufactured for Detroit Edison, P.O. Box 1659, Detroit, MI 48231
(name and address of Purchaser)

3. Location of installation Enrico Fermi Unit 2, 6400 Dixie Highway, Newport, MI 48166
(name and address)

4. Model No., Series No., or Type Globe Drawing 94-16231 Rev. B CRN N/A

5. ASME Code, Section III, Division 1: 1992 (edition) 1992 (addenda date) 3 (class) N62-4 (Code Case no.)

6. Pump or valve Valve Nominal inlet size 6" (in.) Outlet size 6" (in.)

7. Material: Body SA216-WCB Bonnet SA696-C Disk A582-416T Bolting Studs: SA193-B7 Nuts: SA194-2H

(a) Cert. Holder's Serial No.	(b) Nat'l Board No.	(c) Body Serial No.	(d) Bonnet Serial No.	(e) Disk Serial No.
D133T-1-1	N/A	1	Trace Code:B534	Ht.ID: VMR

QC ACCEPTED 20 EDISON

* Supplemental information in form of lists, sketches, or drawings may be used provided (1) size is 8½ x 11, (2) information in items 1 through 4 on this Data Report is included on each sheet, (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

Certificate Holder's Serial No. D133T-1-1

8. Design conditions 707 (pressure) psi 150 (temperature) °F or valve pressure class 300 (1)

9. Cold working pressure 740 psi at 100°F

10. Hydrostatic test 1125 psi. Disk differential test pressure 815 psi

11. Remarks: Material: Bonnet Retainer SA516-70 (Ht. ID: VLM)

CERTIFICATION OF DESIGN

Design Specification certified by Lawrence D. Burr P.E. State MI Reg. no. 33999

Design Report certified by N/A P.E. State _____ Reg. no. _____

CERTIFICATE OF COMPLIANCE

We certify that the statements made in this report are correct and that this pump or valve conforms to the rules for construction of the ASME Code, Section III, Division 1.

N Certificate of Authorization No. N1712 Expires 4/15/01

Date 2/12/01 Name Flowserve Corporation (N Certificate Holder) Signed _____ (authorized representative)

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 and employed by Commercial Union Ins. Co. of Boston, Mass have inspected the pump, or valve, described in this Data Report on 10-12-00 thru 2-13-01 and state that to the best of my knowledge and belief, the Certificate Holder has constructed this pump, or valve, in accordance with the ASME Code, Section III, Division 1.

By signing this certificate, neither the inspector nor his employer makes any warranty, expressed or implied, concerning the component 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 2-13-01 Signed _____ (Authorized Inspector) Charles Young Commissions Pennsylvania 2392 256 (Nat'l. Bd. (incl. endorsements) and state or prov. and no.)

(1) For manually operated valves only.

QC ACCEPTED 2C EC

PAGE 3 of 3
NSR FOR IGN PROGRAM 030

FORM NPP-1 CERTIFICATE HOLDERS' DATA REPORT FOR FABRICATED NUCLEAR PIPING SUBASSEMBLIES*

As Required by the Provisions of the ASME Code, Section III, Division 1

Pg. 1 of 1

1. Fabricated and certified by Flowserve Corporation, 701 First St., Williamsport, PA 17707
(name and address of NPT Certificate Holder)

2. Fabricated for Detroit Edison, P.O. Box 1659, Detroit, MI 48231
(name and address)

3. Location of installation Enrico Fermi Unit 2, 6400 Dixie Highway, Newport, MI 48166
(name and address of Purchaser)

4. Type D133T-1-1A (Cert. Holder's serial no.) | N/A (CRN) | 94-16231, R/B (drawing no.) | N/A (Nat'l. Bd. no.) | 2001 (year built)

5. ASME Code, Section III, Division 1: 1992 (edition) | 1992 (addenda date) | 3 (class) | N/A (Code Case no.)

6. Shop hydrostatic test 1125 psi at Ambient °F (if performed)

7. Description of piping 8"x6" Schedule 40 Concentric Reducers
Material: SA234-WPB (Ht. #52435)

8. Certificate Holders' Data Reports properly identified and signed by commissioned inspectors have been furnished for the following items of this report: Valve S/N: D133T-1-1 (6"-300# Globe Control Valve)

9. Remarks: Welded 8"x6" Sch. 40 Conc. Reducers to both Valve ports

CERTIFICATE OF SHOP COMPLIANCE

We certify that the statements made in this report are correct and that the fabrication of the described piping subassembly conforms to the rules for construction of the ASME Code, Section III, Division 1.

NPT Certificate of Authorization No. N1713 Expires 4/15/01

Date 2/12/01 Name Flowserve Corporation (NPT Certificate Holder) Signed (authorized representative)

CERTIFICATE OF SHOP 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 and employed by Commercial Union Insurance Co. of Boston, Mass. have inspected the piping subassembly described in this Data Report on 11-17-00 thru 2-13-01 and state that to the best of my knowledge and belief, the Certificate Holder has fabricated this piping subassembly in accordance with the ASME Code, Section III, Division 1.

By signing this certificate neither the inspector nor his employer makes any warranty, expressed or implied, concerning the piping subassembly 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 2-13-01 Signed Charles Young (Authorized Inspector) 256 Commissions Pennsylvania 2392 (Nat'l. Bd. (incl. endorsements) and state or prov. and no.)

* Supplemental information in form of lists, sketches, or drawings may be used provided (1) size is 8½ × 11, (2) information in items 1 through 4 on this Data Report is included on each sheet, (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

(12/88) This form (E00062) may be obtained from the Order Dept., ASME, 22 Law Drive, Box 2300, Fairfield, NJ 07007-2300.

QC ACCEPTED 20 EDISON

Ref. P.O. 351078

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

1. Owner Detroit Edison Company (Name) — Date 2-15-2003
   6400 North Dixie Highway, Newport MI 48166 (Address) — Sheet 1 of 1
2. Plant Fermi 2 Nuclear Power Plant (Name) — Unit 2
   6400 North Dixie Highway, Newport MI 48166 (Address) — Deco Maintenance (Repair Organization P.O. No., Job No., etc.)
3. Work Performed by
   Detroit Edison Company (Name) — Type Code Symbol Stamp N/A
   Authorization No. N/A
   Expiration Date N/A
   6400 North Dixie Highway, Newport, MI 48166 (Address)
4. Identification of System Hanger Support E11-3185-G51 – Division 1 RHRSW
5. (a) Applicable Construction Code AISC 19 6th/7th Edition N/A Addenda, N/A Code Case
   (b) Applicable Edition/Addenda of Section XI Utilized for Repairs or Replacements 1992-W'92 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)
E11-3185-G51	Wismer & Becker	810087	N/A	E1185G051	81	Replacement	No

7. Description of Work Replaced leaking Hydraulic Snubber with a tested spare.
8. Tests Conducted: Hydrostatic [ ] Pneumatic [ ] Nominal Operating Pressure [ ]
   Other [X] Pressure _____ psi Test Temp._____ °F

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 (Back)

9. Remarks Replaced snubber with a tested spare that was refurbished per WR# 000Z984276.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of theASME Code, Section XI.

Type Code Symbol Stamp Original Construction Records for E11-3185-G51 will be supplemented by Owners Section XI Program Plan 03-003 and Work request 000z023688 .

Certificate of Authorization No. N/A Expiration Date N/A

Signed R.M. Hambleton Lead ISI Engineer Date FEBRUARY 15 2003
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE 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 Michigan and employed by HSB CT of One State Street, Hartford, CT 06102 have inspected the components described in this Owner's Report during the period Jan 30 03 to July 8 2003, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's 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 Owner's 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.

Commissions MI 6610
Inspector's Signature National Board, State, Province, and Endorsements

Date July 8 2003

(10/94)

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

1. Owner: Detroit Edison Company (Name)
6400 North Dixie Highway, Newport MI 48166 (Address)
Date: May 21, 2003
Sheet: 1 of 1

2. Plant: Fermi 2 Nuclear Power Plant (Name)
6400 North Dixie Highway, Newport MI 48166 (Address)
Unit: 2
Deco Maintenance (Repair Organization P.O. No., Job No., etc.)

3. Work Performed by: Detroit Edison Company (Name)
6400 North Dixie Highway, Newport, MI 48166 (Address)
Type Code Symbol Stamp: N/A
Authorization No.: N/A
Expiration Date: N/A

4. Identification of System: N5-0522 Primary Containmant Pneumatic Supply System
N5-0608 Nitrogen Inerting System

5. (a) Applicable Construction Code: ASME III, Class 2 19 71 Edition Winter 1971 Addenda, N/A Code Case

(b) Applicable Edition/Addenda of Section XI Utilized for Repairs or Replacements: 1992-92 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)
T2300F400D	GPE Controls	7208-0327/4	N/A	V21-2004	1974	Replacement	Y

7. Description of Work: Install Replacement Flange Bolt

8. Tests Conducted: Hydrostatic [ ] Pneumatic [ ] Nominal Operating Pressure [ ]
Other [X] Pressure _____ psi Test Temp._____ °F

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 (Back)

9. Remarks)

Replacement Bolt procured per PO# 361906, ¾"-10 UNC-2A x 2-1/2", SA 193 Grade B7. HT # B130

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this Replacement conforms to the rules of theASME Code, Section XI.

Type Code Symbol Stamp Original Code Data report N5-522 and N5-608 to be supplemented by Owners Section XI Program # 03-011

Certificate of Authorization No. N/A Expiration Date N/A

Signed R.M. Hambleton Lead ISI Engineer Date MAY 21 2003
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE 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 Michigan and employed by HSB CT of One State Street, Hartford, CT 06102 have inspected the components described in this Owner's Report during the period 4-8-03 to 6-3-03, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's 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 Owner's 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.

Inspector's Signature

Commissions NB9486 ABINNS MI1610
National Board, State, Province, and Endorsements

Date June 3 2003

(10/94)

For complete work package, see Work Request Y664030100

03-012

03-028

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

1. Owner Detroit Edison Company (Name) — Date May 21, 2003
6400 North Dixie Highway, Newport MI 48166 (Address) — Sheet 1 of 1

2. Plant Fermi 2 Nuclear Power Plant (Name) — Unit 2
6400 North Dixie Highway, Newport MI 48166 (Address)

Deco Maintenance (Repair Organization P.O. No., Job No., etc.)

3. Work Performed by
Detroit Edison Company (Name)
6400 North Dixie Highway, Newport, MI 48166 (Address)

Type Code Symbol Stamp N/A
Authorization No. N/A
Expiration Date N/A

4. Identification of System N5-0214 Feedwater Loop B, RWCU Return to Vessel

5. (a) Applicable Construction Code ASME III, Class 1 19 71 Edition Winter 1971 Addenda, N/A Code Case

(b) Applicable Edition/Addenda of Section XI Utilized for Repairs or Replacements 1992-92 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)
G3300F120	Anchor Darling	E 3062-2-1	N/A	V8-4615	1983	Replacement	Y

7. Description of Work Installed Replacement Bolting material and installed replacemant bonnet retainer/ cover plate.

8. Tests Conducted: Hydrostatic [ ] Pneumatic [ ] Nominal Operating Pressure [X]
Other [ ] Pressure _____ psi Test Temp._____ °F

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.

(10/94)

Form NIS-2 (Back)

9. Remarks

Replacement Bolting material procured per the following Purchase orders:
(4) ½" –13 UNC x 2-1/4", SA 193 Gr. B7, PO# 886964
(4) ½" –13 UNC Nuts, SA-194 Gr. 2H. PO# 890771,
(1) Bonnet Cover/Retainer Plate , A516 Gr. 70, PO# 357114

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this Replacement conforms to the rules of theASME Code, Section XI.

Type Code Symbol Stamp Original Code Data report N5-0214 to be supplemented by Owners Section XI Program #03-012 and 03--028

Certificate of Authorization No. N/A Expiration Date N/A

Signed R.M. Hambleton Lead ISI Engineer Date MAY 21 20 03
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE 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 Michigan and employed by HSB CT of One State Street, Hartford, CT 06102 have inspected the components described in this Owner's Report during the period 5/1/03 to 5/30/05, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's 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 Owner's 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.

Commissions NB9480 ARKNS MEGO
Inspector's Signature — National Board, State, Province, and Endorsements

Date May 30 2003

(10/94)

For complete work package, see Work Requests P521030100 and 000Z031881

03-013
03-014
03-023

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

1. Owner Detroit Edison Company (Name) — Date May 14, 2003
6400 North Dixie Highway, Newport MI 48166 (Address) — Sheet 1 of 1

2. Plant Fermi 2 Nuclear Power Plant (Name) — Unit 2
6400 North Dixie Highway, Newport MI 48166 (Address)
Deco Maintenance (Repair Organization P.O. No., Job No., etc.)

3. Work Performed by Detroit Edison Company (Name) — Type Code Symbol Stamp N/A
6400 North Dixie Highway, Newport, MI 48166 (Address) — Authorization No. N/A — Expiration Date N/A

4. Identification of System T&B N5-3 (RHR Service Water (RHRSW) Pumps E1151C001A and E1151C001C)

5. (a) Applicable Construction Code ASME III, Class 3 19 92 71 Edition 92 '71 Addenda (Valve) N/A Code Case

(b) Applicable Edition/Addenda of Section XI Utilized for Repairs or Replacements 1992-92 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)
E1151C001A	Goulds Pumps	N301213-1	N/A	N/A	1975	Replacement	Y
E1151C001C	Goulds Pumps	N301213-3	N/A	N/A	1975	Replacement	Y

7. Description of Work Installed Replacement Bolting.

8. Tests Conducted: Hydrostatic [ ] Pneumatic [ ] Nominal Operating Pressure [X]
Other [ ] Pressure _____ psi Test Temp. _____ °F

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.

(10/94)

Form NIS-2 (Back)

9. Remarks: Quantities identified for the Replacement Fasteners procured on the following Purchase Orders were replaced in both E1151C001A and E1151C001C.

60 7/8" – 9 X 7" (P.O. 388545 / HT. Code F921) / 120 Nuts 7/8" – 9 (P.O. 859106 / HT. Code MTX for E1151C001C) and 120 Nuts (P.O. 388545 HT. Code QJS for E1151C001A)

16 ¾" – 10 X 2 – ¼" (P.O. 388546 / HT. Code F925)

32 3/4" – 10 X 1 – 7/8" (P.O. 388546 / HT Code F925)

12 7/8" – 9 X 5" (P.O. 388546 / HT. Code F922) and 12 Nuts 7/8 – 9 (P.O. 388546 / HT. Code F939) These additional Fasteners were installed on E1151C001C and not on E1151C001A.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this Replacement conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp Original Code data report T&B N5-3 to be supplemented by Owners Section XI Program 03-023 and Bolting Replacement Programs 03-013 (E1151C001C) and 03-014 E1151C001A.

Certificate of Authorization No. N/A Expiration Date N/A

Signed R.M. Hambleton Lead ISI Engineer Date MAY 14 20 03
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE 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 Michigan and employed by HSB CT of One State Street, Hartford, CT 06102 have inspected the components described in this Owner's Report during the period 4-8-03 to 5-20-03, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's 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 Owner's 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.

Commissions NB9486 ARZNNS MI610
Inspector's Signature — National Board, State, Province, and Endorsements

Date May 20 20 03

(10/94)

For complete work package, see Work Request 000Z031277, 000Z031288, 000Z031597, and 000Z031478.

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

1. Owner: Detroit Edison Company (Name) — Date: May 14, 2003
   6400 North Dixie Highway, Newport MI 48166 (Address) — Sheet: 1 of 1
2. Plant: Fermi 2 Nuclear Power Plant (Name) — Unit: 2
   6400 North Dixie Highway, Newport MI 48166 (Address)
   Repair Organization: Deco Maintenance (Repair Organization P.O. No., Job No., etc.)
3. Work Performed by: Detroit Edison Company (Name)
   6400 North Dixie Highway, Newport, MI 48166 (Address)
   Type Code Symbol Stamp: N/A
   Authorization No.: N/A
   Expiration Date: N/A
4. Identification of System: N-5 T&B N5-20 (Emergency Diesel Generator (EDG) Number 13 and 14 Service Water Pumps)
5. (a) Applicable Construction Code: ASME III, Class 3 19 92 Edition, 92 '71 Addenda, (Valve) N/A Code Case
   (b) Applicable Edition/Addenda of Section XI Utilized for Repairs or Replacements: 1992-92 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)
R3001C007	Goulds Pumps	TCN N0007-3	N/A	N/A	1977	Replacement	Y
R3001C008	Goulds Pumps	TCN N0007-4	N/A	N/A	1977	Replacement	Y

7. Description of Work: Installed Replacement Bolting.
8. Tests Conducted: Hydrostatic [ ] Pneumatic [ ] Nominal Operating Pressure [X]
   Other [ ] Pressure _____ psi Test Temp._____ °F

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.

(10/94)

Form NIS-2 (Back)

9. Remarks: Quantities identified for the Replacement Fasteners procured on the following Purchase Orders were replaced in both R3001C007 and R3001C008.

40 ¾" – 10 X 2 – ½" (P.O. 384301 / HT. Code F984)

8 5/8" – 11 X 2" (P.O. 384301 / HT. Code F985)

16 5/8" – 11 X 1-3/4" (P.O. 384301 HT Code F986)

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this Replacement conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp Original Code data report T&B N5-20 to be supplemented by Owners Section XI Program 03-016.

Certificate of Authorization No. N/A Expiration Date N/A

Signed R.M. Hambleton Lead ISI Engineer Date MAY 14 20 03
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE 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 Michigan and employed by HSB CT of One State Street, Hartford, CT 06102 have inspected the components described in this Owner's Report during the period 04-13-03 to 05-20-03, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's 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 Owner's 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.

Commissions NB9486 ABENNS MI610
Inspector's Signature — National Board, State, Province, and Endorsements

Date May 20 20 03

(10/94)

For complete work package, see Work Request 000Z031322 and 000Z031323.

03-017

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

1. Owner: Detroit Edison Company (Name) — Date: May 14, 2003
   6400 North Dixie Highway, Newport MI 48166 (Address) — Sheet: 1 of 1
2. Plant: Fermi 2 Nuclear Power Plant (Name) — Unit: 2
   6400 North Dixie Highway, Newport MI 48166 (Address)
   Deco Maintenance (Repair Organization P.O. No., Job No., etc.)
3. Work Performed by: Detroit Edison Company (Name) — Type Code Symbol Stamp: N/A
   6400 North Dixie Highway, Newport, MI 48166 (Address) — Authorization No.: N/A — Expiration Date: N/A
4. Identification of System: T&B N-5-21 (Emergency Equipment Service Water (EESW) Pump P4500C002B)
5. (a) Applicable Construction Code: ASME III, Class 3, 19 92 Edition, 92 Addenda, (Valve) N/A Code Case
   (b) Applicable Edition/Addenda of Section XI Utilized for Repairs or Replacements: 1992-92 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)
P4500C002B	Goulds Pumps	TCN N0006-2	N/A	N/A	1977	Repair/ Replacement	Y

7. Description of Work: Installed Replacement Bolting and Weld Repair per the following approved WPCS 000Z031324-1.
8. Tests Conducted: Hydrostatic [ ] Pneumatic [ ] Nominal Operating Pressure [X]
   Other [ ] Pressure _____ psi Test Temp._____ °F

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.

(10/94)

Form NIS-2 (Back)

9. Remarks: Quantities identified for the Replacement Fasteners procured on the following Purchase Orders were replaced in P4500C002B.

43 ¾" – 10 X 2 – ½" (P.O. 384301 / HT. Code F984)

8 3/4" – 10 X 2 – 1/4" (P.O. 384301 / HT. Code F988)

16 3/4" – 10 X 2" (P.O. 384301 HT Code F989 (Qty. 14) & F990 (Qty. 2).

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this Repair/Replacement conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp Original Code data report T&B N5-21to be supplemented by Owners Section XI Program 03-017.

Certificate of Authorization No. N/A Expiration Date N/A

Signed R.M. Hambleton Lead ISI Engineer Date MAY 14 20 03
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE 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 Michigan and employed by HSB CT of One State Street, Hartford, CT 06102 have inspected the components described in this Owner's Report during the period 4-13-03 to 5-21-03, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's 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 Owner's 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.

Inspector's Signature

Commissions NB9480 MICH 1612
National Board, State, Province, and Endorsements

Date May 21 20 03

(10/94)

For complete work package, see Work Request 000Z031324.

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

1. Owner: Detroit Edison Company (Name) — Date: May 14, 2003
   6400 North Dixie Highway, Newport MI 48166 (Address) — Sheet: 1 of 1
2. Plant: Fermi 2 Nuclear Power Plant (Name) — Unit: 2
   6400 North Dixie Highway, Newport MI 48166 (Address) — Deco Maintenance (Repair Organization P.O. No., Job No., etc.)
3. Work Performed by: Detroit Edison Company (Name) — Type Code Symbol Stamp: N/A
   6400 North Dixie Highway, Newport, MI 48166 (Address) — Authorization No.: N/A — Expiration Date: N/A
4. Identification of System: T & B N5-22 (RHR Service Water (RHRSW) Pumps E1151C001B and E1151C001D).
5. (a) Applicable Construction Code: ASME III, Class 3 19 92 Edition 92 (Valve) Addenda 71 N/A Code Case 71
   (b) Applicable Edition/Addenda of Section XI Utilized for Repairs or Replacements: 1992-92 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)
E1151C001B	Goulds Pumps	N301213-2	N/A	N/A	1975	Replacement	Y
E1151C001D	Goulds Pumps	N301213-4	N/A	N/A	1975	Replacement	Y

7. Description of Work: Installed Replacement Bolting and performed approved Weld Repairs on E1151C001B per WPCS 000Z031466.
8. Tests Conducted: Hydrostatic [ ] Pneumatic [ ] Nominal Operating Pressure [X]
   Other [ ] Pressure _____ psi Test Temp._____ °F

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 (Back)

9. Remarks: Quantities identified for the Replacement Fasteners procured on the following Purchase Orders were replaced in both E1151C001B and E1151C001D.

60 7/8" – 9 X 7" (P.O. 388546 / HT. Code F944) and 120 Nuts (P.O. 968438 HT. Code QJS)

16 ¾" – 10 X 2 – ¼" (P.O. 384300 / HT. Code F982)

32 3/4" – 10 X 1 – 7/8" (P.O. 384300 / HT Code F983)

CARD 03-17716 was written to document that a Sample Plan was used by QA for performing heat Number verification on the Column to Column bolts on both Pumps. This condition was found acceptable per the site Corrective Action Program.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this Repair/Replacement conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp Original Code data report to be supplemented by Owners Section XI Program 03-018.

Certificate of Authorization No. N/A Expiration Date N/A

Signed R.M. Hambleton Lead ISI Engineer Date MAY 14 2003
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE 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 Michigan and employed by HSB CT of One State Street, Hartford, CT 06102 have inspected the components described in this Owner's Report during the period 4-18-03 to 5-21-03, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's 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 Owner's 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.

Commissions NB9480 MICH 10610

Inspector's Signature

National Board, State, Province, and Endorsements

Date May 21 2003

(10/94)

For complete work package, see Work Request 000Z031320, 000Z031321, and 000Z031466.

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

1. Owner: Detroit Edison Company (Name) — Date: May 3, 2003
   6400 North Dixie Highway, Newport MI 48166 (Address) — Sheet: 1 of 1
2. Plant: Fermi 2 Nuclear Power Plant (Name) — Unit: 2
   6400 North Dixie Highway, Newport MI 48166 (Address)
   Deco Maintenance (Repair Organization P.O. No., Job No., etc.)
3. Work Performed by: Detroit Edison Company (Name) — Type Code Symbol Stamp: N/A
   6400 North Dixie Highway, Newport, MI 48166 (Address) — Authorization No.: N/A — Expiration Date: N/A
4. Identification of System: Hydrogen Recombiner / Combustible Gas System (N5-602)
5. (a) Applicable Construction Code: ASME III, Class 3 19 71 Edition '71 Addenda N/A Code Case
   (b) Applicable Edition/Addenda of Section XI Utilized for Repairs or Replacements: 1992-92 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)
T4804F603A	Wismer & Becker	NC73110-010	N/A	V4-2144	1983	Replacement	Y

7. Description of Work: Replaced bolt that was damaged during removal of spool piece for valve trfurbishment.
8. Tests Conducted: Hydrostatic [ ] Pneumatic [ ] Nominal Operating Pressure [X]
   Other [ ] Pressure _____ psi Test Temp._____

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.

(10/94)

Form NIS-2 (Back)

9. Remarks: Replacement bolt procurred per PO # 362048, (1) 5/8"-11 x 2", SA-193, Grade B7, -Heat Code US Y06420 (C323).

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this Replacement conforms to the rules of theASME Code, Section XI.

Type Code Symbol Stamp Original Code data report to be supplemented by Owners Section XI Program 03-019

Certificate of Authorization No. N/A Expiration Date N/A

Signed R.M. Hambleton Lead ISI Engineer Date MAY 3 ,2003
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE 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 Michigan and employed by HSB CT of One State Street, Hartford, CT 06102 have inspected the components described in this Owner's Report during the period 4-13-03 to 5-20-03, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's 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 Owner's 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.

Commissions NB9486 MI1610
Inspector's Signature
National Board, State, Province, and Endorsements

Date May 20 2003

(10/94)

For complete work package, see Work Request 000Z031253

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

1. Owner: Detroit Edison Company (Name) — Date: May 21, 2003
   6400 North Dixie Highway, Newport MI 48166 (Address) — Sheet: 1 of 2
2. Plant: Fermi 2 Nuclear Power Plant (Name) — Unit: 2
   6400 North Dixie Highway, Newport MI 48166 (Address)
   Deco Maintenance (Repair Organization P.O. No., Job No., etc.)
3. Work Performed by: Detroit Edison Company (Name) — Type Code Symbol Stamp: N/A
   6400 North Dixie Highway, Newport, MI 48166 (Address) — Authorization No.: N/A — Expiration Date: N/A
4. Identification of System: N5-307 Residual Heat Removal System (Division 2)
5. (a) Applicable Construction Code: ASME III, Class 2 19 71 Edition '71 Addenda N/A Code Case
   (b) Applicable Edition/Addenda of Section XI Utilized for Repairs or Replacements: 1992-92 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)
E1100F031B	Wm. Powell	63872-2	N/A	V8-2104	1975	Replacement	Y

7. Description of Work: Installed Replacement Disc in check valve. Existing disc had evidence of pitting on seating surface and valve has had a history of seat leakage.
8. Tests Conducted: Hydrostatic [ ] Pneumatic [ ] Nominal Operating Pressure [X]
   Other [ ] Pressure _____ psi Test Temp._____ °F

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 (Back)

9. Replacement Disc was procured per PO # 243229-01, A216 Grade WCB, Heat Code CM7475B

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this Replacement conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp Original Code data report (N5-307) to be supplemented by Owners Section XI Program 03-020.

Certificate of Authorization No. N/A Expiration Date N/A

Signed R.M. Hambleton Lead ISI Engineer Date MAY 21 20 03
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE 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 Michigan and employed by HSB CT of One State Street, Hartford, CT 06102 have inspected the components described in this Owner's Report during the period 4-14-03 to 6-4-03, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's 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 Owner's 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.

Commissions NB9486 ABZNNS N2260
Inspector's Signature
National Board, State, Province, and Endorsements

Date June 4 20 03

(10/94)

For complete work package, see Work Request 000Z023952.

FORM P-3 NPT CERTIFICATE HOLDER'S DATA REPORT FOR NUCLEAR [illegible]

As Required by the Provisions of the ASME Code Rules, Section III, Div. 1

1 (a) Manufactured by The Wm. Powell Co., 3233 Colerain Ave., Cincinnati, Ohio 45225
(Name and address of NPT Certificate Holder)

NIS-2 FOR 03-020 2 of 2

(b) Manufactured for Detroit Edison Co., 6400 Dixie Hwy, Newport, MI 48166
(Name and address of N Certificate Holder for completed nuclear component)

2 Identification Certificate Holder's Serial No. Part CM 7475B Nat'l Bd No N/A CRN No N/A

(a) Constructed According to Drawing No. P/N 6-037093-20000-19 Drawing Prepared by The Wm. Powell Co.

(b) Description of Part Inspected 1 - Disc for 20" Figure 3061WE Check Valve

(c) Applicable ASME Code Section III, Edition 1971 Addenda date Winter 71 Case No. N/A Class 2

3 Remarks
(Brief description of service for which component was designed.)

Items 4-8 inclusive to be completed for single wall vessels, jackets of jacketed vessels, or shells of heat exchangers.

4 Shell: Material ____ T.S. ____ Nom. Thk. ____ in. Corr. Allow. ____ in. Diam. ____ ft. ____ in. Length ____ ft. ____ in.
(Kind & Spec. No.) (Min. of range specified)

5 Seams: Long ____ H.T.[1] ____ R.T. ____ Efficiency ____
Girth ____ H.T.[1] ____ R.T. ____ No. of Courses ____

6 Heads: (a) Material ____ T.S. ____ (b) Material ____ T.S. ____

Location (top, bottom, ends)	Thickness	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diam.	Side to Pressure (convex or concave)
(a)								
(b)								

7 If removable, bolts used ____ Other fastening ____
(Material Spec. No., T.S., Size, Number) (Describe or attach sketch)

8 Jacket Closure: ____
(Describe as welded, bar, etc. If bar, give dimensions; if bolted, describe or sketch)

9 (a) Design Pressure[2] ____ psi at ____ °F (b) Min. Pressure-Test Temp. ____ °F

Items 9 and 10 to be completed for tube sections.

9 Tube Sheets: Stationary, Material ____ Diam. ____ in. Thk. ____ in. Attachment ____
(Kind & Spec. No.) (Subject to pres.) (Welded, bolted)

Floating: Material ____ Diam. ____ in. Thk. ____ in. Attachment ____

10 Tubes: Material ____ O.D. ____ in. Thk. ____ in. or gage Number ____ Type ____
(Straight or U)

Items 11-14 inclusive to be completed for inner chambers of jacketed vessels or channels of heat exchangers.

11 Shell: Material ____ T.S. ____ Nom. Thk. ____ in. Corr. Allow. ____ in. Diam. ____ ft. ____ in. Length ____ ft. ____ in.
(Kind & Spec. No.) (Min. of range specified)

12 Seams: Long ____ H.T.[1] ____ R.T. ____ Efficiency ____
Girth ____ H.T.[1] ____ R.T. ____ No. of Courses ____

13 Heads: (a) Material ____ T.S. ____ (b) Material ____ T.S. ____

Location	Thickness	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diam.	Side to Pressure (convex or concave)
(a) Top, bottom, ends								
(b) Channel								

If removable, bolts used (a) ____ (b) ____ (c) ____ Other fastening ____
(Describe or attach sketch)

14 (a) Design Pressure[2] ____ psi at ____ °F (b) Min. Pressure-Test Temp. ____ °F

[1] If postweld heat-treated. [2] List other internal or external pressures with coincident temperature when applicable.
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 and 2 of this Data Report is included on each sheet; and (3) each sheet is numbered and number of sheets is recorded in item 3, *Remarks*.

(12/80) This form (E00040) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, N.Y. 10017

QC ACCEPTED 12

Items below to be completed for all vessels where applicable

DISC CM# 2475B

16. Safety Valve Outlets: Number _____ Size _____ Location _____

16. Nozzles:

Purpose (inlet, outlet, drain)	Number	Diam. or Size	Type	Material	Thickness	Reinforcement Material	How Attached

17. Inspection Openings: Manholes: No. _____ Size _____ Location _____
Handholes: No. _____ Size _____ Location _____
Threaded: No. _____ Size _____ Location _____

18. Supports: Skirt _____ (Yes or no) Lugs _____ (Number) Legs _____ (Number) Other _____ (Described) Attached _____ (Where & how)

We certify that the statements made in this report are correct and this vessel part or appurtenance as described in the Code conforms to the rules of construction of the ASME Code, Section III.

(The applicable Design Specification and Design 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 Design Report if the appurtenance is not included in the component Design Specification and Design Report.)

Date April 15 19 92 Signed The Wm. Powell Co. (NPT Certificate Holder) By [signature]

Certificate of Authorization Expires 12/23/94 Certificate of Authorization No. 1579

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 the State or Province of Ohio and employed by H.S.B.I. & I. Co. of Hartford, CT have inspected the part of a pressure vessel described in this Partial Data Report on 4/15 19 92, 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 4/15 19 92

Patrick F. Donovan Commissions OHIO COMMISSION
Inspector's Signature National Board, State, Province and No.

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

1. Owner: Detroit Edison Company (Name) — Date: May 14, 2003
   6400 North Dixie Highway, Newport MI 48166 (Address) — Sheet: 1 of 1
2. Plant: Fermi 2 Nuclear Power Plant (Name) — Unit: 2
   6400 North Dixie Highway, Newport MI 48166 (Address)
   Deco Maintenance (Repair Organization P.O. No., Job No., etc.)
3. Work Performed by: Detroit Edison Company (Name) — Type Code Symbol Stamp: N/A
   6400 North Dixie Highway, Newport, MI 48166 (Address) — Authorization No.: N/A — Expiration Date: N/A
4. Identification of System: T & B N5 – 4 (Emergency Equipment Service Water (EESW) Pump P4500C002A)
5. (a) Applicable Construction Code: ASME III, Class 3 19 92 Edition 92 (Valve) Addenda N/A Code Case 71
   (b) Applicable Edition/Addenda of Section XI Utilized for Repairs or Replacements: 1992-92 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)
P4500C002A	Goulds Pumps	TCN N0006-1	N/A	N/A	1977	Repair/ Replacement	Y

7. Description of Work: Installed Replacement Bolting and performed Weld Repairs per the following approved WPCS 000Z031294-1.
8. Tests Conducted: Hydrostatic [ ] Pneumatic [ ] Nominal Operating Pressure [X]
   Other [ ] Pressure _____ psi Test Temp._____ °F

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 (Back)

9. Remarks: Quantities identified for the Replacement Fasteners procured on the following Purchase Orders were replaced in P4500C002A.

40 ¾" – 10 X 2 – ½" (P.O. 384301 / HT. Code F987)

8 3/4" – 10 X 2 – 1/4" (P.O. 384301 / HT. Code F988)

16 3/4" – 10 X 2" (P.O. 384301 HT Code F990)

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this Repair/Replacement conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp Original Code data report (T&B N5-4) to be supplemented by Owners Section XI Program 03-021.

Certificate of Authorization No. N/A Expiration Date N/A

Signed R.M. Hambleton Lead ISI Engineer Date MAY 14 20 03
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE 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 Michigan and employed by HSB CT of One State Street, Hartford, CT 06102 have inspected the components described in this Owner's Report during the period 4-1-03 to 5-21-03, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's 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 Owner's 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.

Commissions NB9486 A8INNS MI610
Inspector's Signature
National Board, State, Province, and Endorsements

Date May 21 20 03

(10/94)

For complete work package, see Work Request 000Z031294, 000Z031597, and 000Z031284.

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

1. Owner: Detroit Edison Company (Name) — Date: May 14 2003
   6400 North Dixie Highway, Newport MI 48166 (Address) — Sheet: 1 of 1
2. Plant: Fermi 2 Nuclear Power Plant (Name) — Unit: 2
   6400 North Dixie Highway, Newport MI 48166 (Address)
   Deco Maintenance (Repair Organization P.O. No., Job No., etc.)
3. Work Performed by: Detroit Edison Company (Name) — Type Code Symbol Stamp: N/A
   6400 North Dixie Highway, Newport, MI 48166 (Address) — Authorization No.: N/A — Expiration Date: N/A
4. Identification of System: N5 – 5 (Emergency Diesel Generator (EDG) Number 11 and 12 Service Water Pumps)
5. (a) Applicable Construction Code: ASME III, Class 3 19 71 Edition 92 "71 Addenda 92 (Valve) N/A Code Case
   (b) Applicable Edition/Addenda of Section XI Utilized for Repairs or Replacements: 1992-92 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)
R3001C005	Goulds Pumps	TCN N0007-1	N/A	N/A	1977	Repair/ Replacement	Y
R3001C006	Goulds Pumps	TCN N0007-2	N/A	N/A	1977	Repair/ Replacement	Y

7. Description of Work: Installed Replacement Bolting and performed Weld Repairs per approved WPCS 000Z031290-1and 000Z031293-1.
8. Tests Conducted: Hydrostatic [ ] Pneumatic [ ] Nominal Operating Pressure [X]
   Other [ ] Pressure _____ psi Test Temp._____ °F

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 (Back)

9. Remarks: Quantities identified for the Replacement Fasteners procured on the following Purchase Orders were replaced in both R3001C005 and R3001C006.

40 ¾" – 10 X 2 – ½" (P.O. 384301 / HT. Code F984)

8 5/8" – 11 X 2" (P.O. 384301 / HT. Code F985)

16 5/8" – 11 X 1-3/4" (P.O. 384301 HT Code F986)

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this Repair/Replacement conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp Original Code data report T&B N5-5 to be supplemented by Owners Section XI Program 03-022.

Certificate of Authorization No. N/A Expiration Date N/A

Signed R.M. Hambleton Lead ISI Engineer Date MAY 14 20 03
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE 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 Michigan and employed by HSB CT of One State Street, Hartford, CT 06102 have inspected the components described in this Owner's Report during the period 04-19-03 to 05-20-03, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's 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 Owner's 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.

Commissions NB9486 ABINNS MI 1010
Inspector's Signature — National Board, State, Province, and Endorsements

Date May 20 20 03

(10/94)

For complete work package, see Work Request 000Z031290, 000Z031293, and 000Z031597.

03-025

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

1. Owner Detroit Edison Company (Name) — Date May 21, 2003
   6400 North Dixie Highway, Newport MI 48166 (Address) — Sheet 1 of 2
2. Plant Fermi 2 Nuclear Power Plant (Name) — Unit 2
   6400 North Dixie Highway, Newport MI 48166 (Address) — Deco Maintenance (Repair Organization P.O. No., Job No., etc.)
3. Work Performed by Detroit Edison Company (Name) — Type Code Symbol Stamp N/A
   6400 North Dixie Highway, Newport, MI 48166 (Address) — Authorization No. N/A — Expiration Date N/A
4. Identification of System N5-013 EECW System Division 1
5. (a) Applicable Construction Code ASME III, Class 3 19 71 Edition '71 Addenda N/A Code Case
   (b) Applicable Edition/Addenda of Section XI Utilized for Repairs or Replacements 1992-92 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)
P44F402A	Fisher Controls	5916391	N/A	V8-2364	1974	Replacement	Y

7. Description of Work Install replacement stem and plug assembly and replace additional internal trim items.
8. Tests Conducted: Hydrostatic [ ] Pneumatic [ ] Nominal Operating Pressure [X]
   Other [ ] Pressure _____ psi Test Temp._____

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.

(10/94)

Form NIS-2 (Back)

9. Remarks: Replacement Plug/Stem assembly procured per PO#239515, Serial No. DC5919-2 (Report Attached) In addition, other trim replaced included the Cage, Seat Ring, and Seat Ring Adapter.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this Replacement conforms to the rules of theASME Code, Section XI.

Type Code Symbol Stamp Original Code data report N5-013 to be supplemented by Owners Section XI Program 03-025

Certificate of Authorization No. N/A Expiration Date N/A

Signed R.M. Hambleton Lead ISI Engineer Date MAY 21, 2003
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE 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 Michigan and employed by HSB CT of One State Street, Hartford, CT 06102 have inspected the components described in this Owner's Report during the period 4-22-03 to 6-03-03, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's 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 Owner's 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.

Inspector's Signature

Commissions NB9486 ABINNS MI610
National Board, State, Province, and Endorsements

Date June 3 2003

(10/94)

For complete work package, see Work Request 000Z030591

RHF402A NIS-2 03025 SHEET 2 OF 2

011-A1GQ11983

FORM N-2 CERTIFICATE HOLDERS' DATA REPORT FOR IDENTICAL NUCLEAR PARTS AND APPURTENANCES

As Required by the Provisions of the ASME Code, Section III

Not To Exceed One Day's Production

1. Manufactured and certified by FISHER CONTROLS INT'L, INC., MARSHALLTOWN, IOWA 50150
(name and address of NPT Certificate Holder)

2. Manufactured for Detroit Edison Co., Box 1659, Detroit, MI., 48231
(name and address of purchaser)

3. Location of installation Fermi II Power Plant, Newport, MI 48166
(name and address)

4. Type 10A4611 Rev. B (drawing no.) SA-479-316SST (mat'l. spec. no.) 75.0 KSI (tensile strength) N/A (CRN) 1992 (year built)

5. ASME Code, Section III: 1971 (edition) Winter 1971 (addenda dates) (class)

6. Fabricated in accordance with Const. Spec. (Div. 2 only) N/A (no.) Revision N/A Dwg. N/A

7. Remarks: N/A

8. Nom. thickness (in.) N/A Min. design thickness (in.) N/A Dia. ID (ft & in.) N/A Length overall (ft & in.) N/A

9. When applicable, Certificate Holders' Data Reports are attached for each item of this report.

	Part or Appurtenance Serial Number	~~National Board No. in Numerical Order~~ Heat Number
(1)	DC5919-1	13949-1
(2)	DC5919-2	13949-2
(3)		
(4)		
(5)		
(6)		
(7)		
(8)		
(9)		
(10)		
(11)		
(12)		
(13)		
(14)		
(15)		
(16)		
(17)		
(18)		
(19)		
(20)		
(21)		
(22)		
(23)		
(24)		
(25)		

	Part or Appurtenance Serial Number	~~National Board Number in Numerical Order~~
(26)		
(27)		
(28)		
(29)		
(30)		
(31)		
(32)		
(33)		
(34)		
(35)		
(36)		
(37)		
(38)		
(39)		
(40)		
(41)		
(42)		
(43)		
(44)		
(45)		
(46)		
(47)		
(48)		
(49)		
(50)		

10. Design pressure 80 psi. Temp. 70 °F. Hydro. test pressure N/A (when applicable) at temp. N/A °F

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

(12/86) This form (E00040) may be obtained from the Order Dept., ASME, 22 Law Drive, Box 2300, Fairfield, NJ 07007-2300

FORM N-2 (back)

Mfr. Serial No. _____

CERTIFICATION OF DESIGN

Design specifications certified by Sylvester H. Noetzel P.E. State NJ Reg. no. [illegible]
(when applicable)

Design report certified by N/A P.E. State N/A Reg. no. N/A
(when applicable)

CERTIFICATE OF SHOP COMPLIANCE

We certify that the statements made in this report are correct and that this (these) Valve Plugs conforms to the rules of construction of the ASME Code, Section III.

NPT Certificate of Authorization No. 1930 Expires 11-18-92

Date 12-13-91 Name FISHER CONTROLS INT'L INC. Signed [signature]
(NPT Certificate Holder) (authorized representative)

CERTIFICATE OF SHOP 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 IOWA and employed by HARTFORD S.B.I & I CO. of HARTFORD, CONN. have inspected these items described in this Data Report on 12-13-91 and state that to the best of my knowledge and belief, the Certificate Holder has fabricated these parts or appurtenances in accordance with the ASME Code, Section III. Each part listed has been authorized for stamping on the date shown above.

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 loss of any kind arising from or connected with this inspection.

Date 12-13-91 Signed Kent Colby Commissions [illegible]
(Authorized Inspector) (Nat'l. Bd. (incl. endorsements) and/or state or prov. and no.)