VERMONT YANKEE NUCLEAR POWER CORPORATION

1983 INSERVICE INSPECTION SUMMARY REPORT

MARCH 5, 1983 THROUGH JUNE 16, 1983

PREPARED BY _____ 8/30/83
PLANT INSERVICE INSPECTION COORDINATOR

APPROVED BY _____
ENGINEERING SUPPORT SUPERVISOR

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Attachment A:

Form NIS-1, Owners'Data Report
for Inservice Inspections

VERMONT YANKEE NUCLEAR POWER CORPORATION
1983 INSERVICE INSPECTION SUMMARY REPORT
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1. INTRODUCTION

The attached Form NIS-1, "Owners' Data Report for Inservice Inspection" describes the inservice inspections performed during 1983 at the Vermont Yankee Nuclear Power Station, Vernon, Vermont. The examinations performed were those of the final outage of the third period of the first 10 year interval. The non-destructive examination procedures used for inservice inspection were in accordance with the ASME Boiler and Pressure Vessel Code, Section XI, "Rules for Inservice Inspection of Nuclear Reactor Coolant Systems," as referenced by the plant Technical Specifications. The areas subject to examination and the methods used were in accordance with the Vermont Yankee Inservice Inspection Program and the plant Technical Specifications. This report summarizes the components examined, the types of examination, the non-conforming conditions noted, and the corrective actions taken. Ultrasonic, liquid penetrant, magnetic particle and visual examination techniques were employed to perform the required examinations.

2. EXAMINATION METHODS

Non-destructive examinations were performed in accordance with the procedures contained in the Yankee Atomic Electric Company, Engineering Guidelines, Book III, "Inservice Inspection NDE Procedures," or vendor procedures reviewed and approved by Yankee Atomic Electric Company. The examination procedures were reviewed and approved by personnel qualified to SNT-TC-1A Level III. These procedures conform to the requirements of ASME Section XI (S'75) and the referenced portions of ASME Section V (S'75) except where these editions are in conflict with Technical Specification requirements. The inservice examinations were performed and evaluated by personnel qualified to the 1975 edition of SNT-TC-1A. The procedures used for these examinations are listed in Section 10 of the NIS-I Form.

3. EVALUATION OF DATA

The examination results were reviewed at the site by personnel qualified to at least SNT-TC-1A Level II. Indications were evaluated to the acceptance standards defined in the Vermont Yankee Nuclear Power Station Technical Specifications.

4. EXAMINATION RESULTS

A list of the examinations that were performed is contained in Section 10 of the NIS-I Form. The detailed examination data along with the calibration records, procedures, equipment cerifications and personnel certifications are maintained at the plant site. Except for the conditions previously described in our response to NRC IE Bulletin 83-2, no rejectable conditions other than those described in Section II of the NIS-I Form were noted during these examinations. Upon completion of the corrective actions detailed in Section 12 of the NIS-1 and upon NRC acceptance of our response to Bulletin 83-02, there were no remaining unacceptable conditions. No continuing or followup items resulted from mandatory examinations performed under ASME Section XI.

CONCLUSIONS

The scheduled inspections accomplished during the 1983 Inservice Inspection constituted an additional 1/3 of the total number of inspections required to be completed during Period 3 of the first Inservice Inspection Interval. Upon completion of the 1983 Inservice Inspection, 100% of all inspections required for this inspection interval had been performed.

FORM NIS-1 OWNERS' DATA REPORT FOR INSERVICE INSPECTIONS

As required by the Provisions of the ASME Code Rules

1. Owner Vermont Yankee Nuclear Power Corp., RD 5 Box 169, Ferry Rd., Brattleboro, Vt. 05301
(Name and Address of Owner)

2. Plant Vermont Yankee Nuclear Power Station, P.O. Box 157, Vernon, Vt. 05354
(Name and Address of Plant)

3. Plant Unit 1 4. Owner Certificate of Authorization (if required) DPR-28

5. Commercial Service Date 11/30/72 6. National Board Number for Unit None

7. Components Inspected

Component or Appurtenance	Manufacturer or Installer	Manufacturer or Installer Serial No.	State or Province No.	National Board No.
SAFETY CLASS 1				
REACTOR VESSEL				
4 closure head welds	Chicago Bridge & Iron	B 4698	N/A	N/A
11 bottom head welds	Chicago Bridge & Iron	B 4698	N/A	N/A
2 shell longitudinal welds	Chicago Bridge & Iron	B 4698	N/A	N/A
1 shell to flange weld	Chicago Bridge & Iron	B 4698	N/A	N/A
10 nozzle to vessel welds	Chicago Bridge & Iron	B 4698	N/A	N/A
1 CRD housing weld	Chicago Bridge & Iron	B 4698	N/A	N/A
3 nozzle to safe end welds	Chicago Bridge & Iron	B 4698	N/A	N/A
8 vessel closure studs	Chicago Bridge & Iron	B 4698	N/A	N/A
8 vessel closure nuts	Chicago Bridge & Iron	B 4698	N/A	N/A
8 vessel closure washers	Chicago Bridge & Iron	B 4698	N/A	N/A
8 vessel flange ligaments	Chicago Bridge & Iron	B 4698	N/A	N/A
Various vessel internals	Chicago Bridge & Iron	B 4698	N/A	N/A
Various internal attachments	Chicago Bridge & Iron	B 4698	N/A	N/A
28 CRD Penetrations	Chicago Bridge & Iron	B 4698	N/A	N/A

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

FORM NIS-1 (back)

8. Examination Dates 3/5/83 to 6/16/83 9. Inspection Interval from 11/30/72 to 6/16/83

10. Abstract of Examinations. Include a list of examinations and a statement concerning status of work required for current interval.

See attached pages.

11. Abstract of Conditions Noted

See attached pages.

12. Abstract of Corrective Measures Recommended and Taken

See attached pages.

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

Date Sept. 12, 19 83 Signed Vermont Yankee Nuclear Power Corporation (Owner) By James Pelletier (Plant Manager)

Certificate of Authorization No. (if applicable) DPR - 28 Expiration Date December 11, 2007

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State or Province of Vermont and employed by Hartford Steam Boiler of Hartford, Conn. have inspected the components described in this Owners' Data Report during the period March 5, 1983 to June 16, 1983, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owners' Data Report in accordance with the requirements of the ASME Code, Section XI.

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

Date September 13, 19 83

Richard L. Lane (Inspector's Signature) Commissions Vermont 318 (National Board, State, Province and No.)

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5. Commercial Service Date 11/30/72 6. National Board Number for Unit None

7. Components Inspected

Component or Appurtenance	Manufacturer or Installer	Manufacturer or Installer Serial No.	State or Province No.	National Board No.
1 Vessel Support	Chicago Bridge & Iron	N/A	N/A	N/A
SAFETY CLASS 1 PIPING				
59 Pipe welds	Per referenced isometrics EBASCO	N/A	N/A	N/A
2 >6" branch connect. welds	Per referenced isometrics EBASCO	N/A	N/A	N/A
53 supports/ hangers	Per referenced isometrics EBASCO	N/A	N/A	N/A
12 <2" bolts	Per referenced isometrics EBASCO	N/A	N/A	N/A
PUMPS				
1 Support	Per referenced isometrics EBASCO	N/A	N/A	N/A
VALVES				
68 <2" bolts	Per referenced isometrics EBASCO	N/A	N/A	N/A
SAFETY CLASS 2				
VESSELS				
23 >1" bolts	Per referenced isometrics EBASCO	N/A	N/A	N/A
PIPING				
20 >1" bolts	Per referenced isometrics EBASCO	N/A	N/A	N/A
78 supports/ hangers	Per referenced isometrics EBASCO	N/A	N/A	N/A

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This form (E00029) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, N.Y. 10017

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7. Components Inspected

Component or Appurtenance	Manufacturer or Installer	Manufacturer or Installer Serial No.	State or Province No.	National Board No.
58 Supports/ hangers	Per referenced isometrics Mercury Co.	N/A	N/A	N/A
8 pipe welds	Per referenced isometrics EBASCO	N/A	N/A	N/A
32 pipe welds	Per referenced isometrics Mercury Co.	N/A	N/A	N/A
VALVES				
32 >1" bolts	Per referenced isometrics EBASCO	N/A	N/A	N/A
SAFETY CLASS 3				
PIPING				
102 supports/ hangers	Per referenced isometrics EBASCO	N/A	N/A	N/A
6 supports/ hangers	Per referenced isometrics Mercury Co.	N/A	N/A	N/A

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10. Abstract of Examination

A. Nondestructive Examinations

Category	Component Description	Component Identification	Examination	Isometric (1)
SAFETY CLASS 1 REACTOR				
B-B	Closure Head Meridional Welds	B-3	UT	H-22
		B-4	UT	H-22
		B-5	UT	H-22
		B-6	UT	H-22
	Bottom Head Meridional Welds	H-1	UT	H-22
		H-2	UT	H-22
		H-3	UT	H-22
		H-4	UT	H-22
		H-5	UT	H-22
		H-6	UT	H-22
		H-7	UT	H-22
		H-8	UT	H-22
	Dollar Plate Circumferential Weld	H-J	UT	H-22
	Dollar Plate Longitudinal Welds	J-1	UT	H-22
		J-2	UT	H-22
	Vessel Shell Longitudinal Welds	D-1	UT	H-22
		D-2	UT	H-22
B-C	Vessel Shell to Flange Weld	C-D	UT	H-22

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10. Abstract of Examination

A. Nondestructive Examinations

Category	Component Description	Component Identification	Examination	Isometric (1)
B-D	Nozzle to Vessel Welds	N2F	UT	H-22
		N2H	UT	H-22
		N2K	UT	H-22
		N3D	UT	H-22
		N6A	UT	H-22
		N6B	UT	H-22
		N7	UT	H-22
		N8A	UT	H-22
		N8B	UT	H-22
		N10	UT	H-22
B-E	CRD Stub Tube to Housing Weld	18-03	UT(2)	H-25
B-F	Nozzle to Safe-End Welds	N2F-SE	UT,PT,VT	H-1
		N2H-SE	UT,PT,VT	H-1
		N2K-SE	UT,PT,VT	H-1
B-G-1	Vessel Closure Studs and Nuts	43 through 46	UT,PT	H-21
		61 through 64	UT,PT	H-21
	Vessel Closure Washers and Bushings (3)	43 through 46	VT	H-21
		61 through 64	VT	H-21
	Vessel Flange Ligaments	43 through 46	UT	H-21
		61 through 64	UT	H-21
B-H	Support Skirt to Vessel Weld	None	MPT,PT,UT	None

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10. Abstract of Examination

A. Nondestructive Examinations

Category	Component Description	Component Identification	Examination	Isometric (1)
B-N-1	Vessel Interior	Jet Pump Assemblies	VT	None
		Shroud Annulus	VT	None
		Feedwater Sparger and Brackets	VT	None
		Core Spray Sparger and Brackets	VT	None
		Accessible Portions of: Standby Liquid Control Line	VT	None
		Differential Pressure Line	VT	None
		Shroud Weld	VT	None
		CRD Housings	VT	None
		CRD Housing to Stub Tube Welds	VT	None
		Stub Tube to RPV Welds	VT	None
		Incore Housing to Incore Guide Tube Welds	VT	None
		Incore Guide Tube Stabilizers	VT	None

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A. Nondestructive Examinations

Category	Component Description	Component Identification	Examination	Isometric (1)
B-N-1	Vessel Interior (Cont'd)			
		Bottom Head, General Area	VT	None
B-N-2	Interior Attachments and Core Support Structures	Steam Dryer Support Brackets and Welds	VT	None
		Guide Rod Brackets and Welds	VT	None
		Dryer Hold-down Brackets and Welds	VT	None
		Surveillance Specimen Support Brackets and Welds	VT	None
B-O	CRD Housing Penetrations	02-27	VT(4)	H-25
		02-23	VT(4)	H-25
		02-19	VT(4)	H-25
		06-15	VT(4)	H-25
		06-11	VT(4)	H-25
		10-07	VT(4)	H-25
		14-07	VT(4)	H-25
		18-03	VT(4)	H-25
		22-03	VT(4)	H-25
		26-03	VT(4)	H-25
		30-07	VT(4)	H-25
		34-07	VT(4)	H-25
		38-11	VT(4)	H-25
		42-19	VT(4)	H-25
		42-23	VT(4)	H-25
		42-27	VT(4)	H-25
		38-31	VT(4)	H-25

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10. Abstract of Examination

A. Nondestructive Examinations

Category	Component Description	Component Identification	Examination	Isometric (1)
B-O	CRD Housing Penetrations (Cont'd)	38-35	VT(4)	H-25
		34-39	VT(4)	H-25
		30-39	VT(4)	H-25
		26-43	VT(4)	H-25
		22-43	VT(4)	H-25
		18-43	VT(4)	H-25
		14-39	VT(4)	H-25
		10-39	VT(4)	H-25
		06-35	VT(4)	H-25
		06-31	VT(4)	H-25
		38-15	VT(4)	H-25
SAFETY CLASS 1 PIPING				
B-J	Circumferential and Longitudinal Welds	Recirc Riser N2A		
		Weld 45	UT(5)	H-1
		Weld 44	UT(5)	H-1
		Weld 43A	UT(5)	H-1
		Weld 43	UT(5)	H-1
		Recirc Riser N2B		
		Weld 42	UT(5)	H-1
		Weld 41	UT(5)	H-1
		Weld 40A	UT(5)	H-1
		Weld 40	UT(5)	H-1
		Recirc Riser N2C		
		Weld 36	UT(5)	H-1
		Weld 35	UT(5)	H-1
		Weld 34A	UT(5)	H-1
		Weld 34	UT(5)	H-1
		Recirc Riser N2D		
		Weld 33	UT(5)	H-1
		Weld 32	UT(5)	H-1
		Weld 31A	UT(5)	H-1
		Weld 31	UT(5)	H-1
		Recirc Riser N2E		
		Weld 30	UT(5)	H-1
		Weld 29	UT(5)	H-1
		Weld 28A	UT(5)	H-1
		Weld 28	UT,VT(5)(6)	H-1

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A. Nondestructive Examination

Category	Component Description	Component Identification	Examination	Isometric (1)
B-J	Circumferential and Longitudinal Welds	Recirc Riser N2F		
		Weld 23	UT(5)	H-1
		Weld 24	UT(5)	H-1
		Weld 24A	UT(5)(7)	H-1
		Weld 25	UT,VT(5)(6)	H-1
		Recirc Riser N2G		
		Weld 20	UT(5)	H-1
		Weld 21	UT(5)	H-1
		Weld 21A	UT(5)	H-1
		Weld 22	UT(5)	H-1
		Recirc Riser N2H		
		Weld 16	UT(5)	H-1
		Weld 18	UT(5)	H-1
		Weld 18A	UT(5)	H-1
		Weld 19	UT(5)	H-1
		Recirc Riser N2J		
		Weld 53	UT(5)	H-1
		Weld 54	UT(5)	H-1
		Weld 54A	UT(5)	H-1
		Weld 55	UT(5)	H-1
		Recirc Riser N2K		
		Weld 50	UT(5)	H-1
		Weld 51	UT(5)	H-1
		Weld 51A	UT(5)	H-1
		Weld 52	UT,VT(5)(6)	H-1

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10. Abstract of Examination

A. Nondestructive Examinations

Category	Component Description	Component Identification	Examination	Isometric (1)
B-J	Circumferential and Longtudinal Welds	Recirc Ring Header		
		Weld 16B	UT(5)	H-1
		Weld 23A	UT(5)	H-1
		Weld 30A	UT(5)	H-1
		Weld 30B	UT(5)	H-1
		Weld 36B	UT(5)	H-1
		Weld 46	UT(5)	H-1
		Recirc Loop A		
		Weld 1A	UT(5)	H-2
		Weld 2	UT(5)	H-2
		Weld 9A	UT(5)	H-2
		Weld 9B	UT(5)	H-2
		Weld 15A	UT(5)	H-2
		Recirc Loop B		
		Weld 17	UT(5)	H-3
		Weld 38	UT(5)	H-3
		Weld 58	UT(5)	H-3
		Weld 59	UT(5)	H-3
		Weld 64	UT(5)	H-3
		Weld 65A	UT(5)	H-3
		Weld 66	UT(5)	H-3
		RHR A		
		Weld 4	UT(5)	H-4
		RHR B		
		Weld 1	UT(5)	H-5
		MS-7A		
		Weld 11	UT,VT	H-14

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A. Nondestructive Examinations

Category	Component Description	Component Identification	Examination	Isometric (1)
B-K-1	Integrally Welded Supports	Recirc Ring Header		
		RR-37	VT(8)	H-1
		RR-44	VT(8)	H-1
		RR-49	VT(8)	H-1
		RR-52	VT(8)	H-1
		RR-59	VT(8)	H-1
		Recirc Loop A		
		RR-10	VT(8)	H-2
		RR-11	VT(8)	H-2
		RR-15	VT(8)	H-2
		RR-16	VT(8)	H-2
		RR-17	VT(8)	H-2
		Recirc Loop B		
		RR-86	VT(8)	H-3
		RR-87	VT(8)	H-3
		RR-83	VT(8)	H-3
		RR-84	VT(8)	H-3
		RR-85	VT(8)	H-3
B-K-2 Supports	Non-Welded	Recirc Ring Header		
		RR-45	VT	H-1
		RR-47	VT	H-1
		RR-54	VT	H-1
		RR-36	VT(12)	H-1
		RR-41	VT(12)	H-1
		RR-43	VT(12)	H-1
		RR-46	VT(12)	H-1
		RR-56	VT(12)	H-1
		RR-58	VT(12)	H-1
		RR-61	VT(12)	H-1
		Recirc Loop A		
		RR-7	VT(8)	H-2
		RR-8	VT(8)	H-2
		RR-22	VT(8)	H-2
		RR-23	VT(8)	H-2

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A. Nondestructive Examinations

Category	Component Description	Component Identification	Examination	Isometric (1)
B-K-2	Non-Welded Supports	Recirc Loop A		
		RR-25	VT(8)	H-2
		RR-26	VT	H-2
		RR-29	VT(8)	H-2
		RR-30	VT(8)	H-2
		RR-31	VT	H-2
		RR-33	VT	H-2
		Recirc Loop B		
		RR-89	VT(8)	H-3
		RR-90	VT(8)	H-3
		RR-75	VT(8)	H-3
		RR-74	VT(8)	H-3
		RR-72	VT(8)	H-3
		RR-71	VT(8)	H-3
		RR-66	VT(8)	H-3
		RR-65	VT(8)	H-3
		Line MS-7A		
		MS-4	VT	H-14
		MS-7	VT	H-14
		Line MS-7B		
		MS-15	VT	H-15
		Line FDW-21		
		FW-8	VT	H-7
		Line FDW-20		
		FW-13	VT(9)	H-8

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A. Nondestructive Examinations

Category	Component Description	Component Identification	Examination	Isometric (1)
B-K-2	Non-Welded Supports	Line CUW-18		
		CU-7	VT	H-13
		CU-6	VT(9)	H-13
		CU-8	VT(9)	H-13
		CU-9	VT(9)	H-13
		Line MS-5A		
		H-60	VT	H-19
B-G-2	Bolting <2" Diameter and Corresponding Nuts	Line MS-7A		
		SV-A Inlet Flange (12 bolts in place)	VT	H-14
SAFETY CLASS 1 PUMPS				
B-K-2	Non-Welded Supports	Pump P-18-1A		
		Support RR-21	VT	H-2
SAFETY CLASS 1 VALVES				
B-G-2	Bolting <2" Diameter and Corresponding Nuts	Recirc A Bypass		
		Valve V2-54A (10 bolts in place)	VT	H-2

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3. Plant Unit 1 4. Owner Certificate Authoriztion (if required) DPR-28

5. Commercial Service Date 11/30/72 6. National Board Number for Unit None

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10. Abstract of Examination

A. Nondestructive Examinations

Category	Component Description	Component Identification	Examination	Isometric (1)
B-G-2	Bolting <2" Diameter and Corresponding Nuts	Line FDW-19		
		Valve V2-29A (6 bolts in place)	VT	H-7
		Line CUW-18		
		Valve V12-18 (4 bolts in place)	VT	H-13
		Line MS-7C		
		Valve V2-86C (18 bolts in place)	VT	H-16
		Line MS-7D		
		Valve V2-86D (18 bolts in place)	VT	H-17
		Line MS-7A		
		Valve SV2-70A (12 bolts, removed)	VT	H-14
SAFETY CLASS 2 VESSELS				
C-D	Bolting >1" Diameter and Corresponding Nuts	RHR "B"		
		RHR-HX-B (23 bolts in place)	VT	I-20

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A. Nondestructive Examinations

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SAFETY CLASS 2 PIPING				
C-D	Bolting >1" Diameter and Corresponding Nuts	Line RHR-3A		
		Flange, RO-10-105A (20 bolts in place)	VT	I-10A
C-E-1	Integrally Welded Supports	Line HPCI-2		
		Support H-26	PT	I-5
		Support H-24	VT(10)(11)	I-5
		Support HD-24	VT(10)(11)	I-5
		Support HD-26A	VT(10(11)	I-5
		Support HD-26B	VT(10)(11)	I-5
		Support H-28	VT(10)(11)	I-5
		Support HD-28	VT(10)(11)	I-5
		Line HPCI-15B		
		Support HD-22D	VT(10)	I-4
		Support H-22	VT(10(11)	I-5
		Support HD-22A	VT(10)(11)	I-5
		Support HD-22B	VT(10)(11)	I-4
		Support HD-22E	VT(10)(11)	I-4
		Support H-35	VT(10)(11)	I-4
		Support HD-35A	VT(10)(11)	I-4
		Support HD-35B	VT(10)(11)	I-4
		Support HD-35C	VT(10)(11)	I-4
		Support HD-35D	VT(10)(11)	I-4

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A. Nondestructive Examinations

Category	Component Description	Component Identification	Examination	Isometric (1)
C-E-1	Integrally Welded Supports	Line MS-4B		
		Support HD-13B	VT(10)	I-2
		Line RHR-1B		
		Support H-22	PT,VT(12)	Under Development
		Support HD-127A	VT(10)	I-7B
		Support HD-127B	VT(11)	I-7B
		Line RHR-2B		
		Support HD-127D	PT	I-9
		Line RHR-3D		
		Support HD-188C	PT	I-10B
		Line RHR-8		
		Support H-16	PT,VT(12)	Under Development
		Line RHR-10		
		Support H-83	PT,VT(12)	I-15
		Line RHR-15		
		Support H-98	PT,VT(12)	Under Development
		Support CS-H-86B	PT,VT(12)	

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A. Nondestructive Examinations

Category	Component Description	Component Identification	Examination	Isometric (1)
C-E-1	Integrally Welded Supports	Line RHR-23		
		Support CS-HD-54H	PT,VT(12)	Under Development
		Line RHR-40		
		Support HD-37	VT(10)	I-17
		Support HD-3	VT(10)	I-17
		Support HD-5	VT(10)	I-17
		Line CS-2A		
		Support HD-61B	VT(10)	I-6A
		Support CS-H-52	PT,VT(12)	Under Development
		Support CS-H-61	PT,VT(12)	Under Development
		Support CS-H-89	PT,VT(12)	Under Development
		Support CS-H-90	PT,VT(12)	Under Development
		Line CS-2B		
		Support CS-H-45	PT,VT(12)	Under Development
		Support CS-H-46	PT,VT(12)	Under Development
		Support CS-H-55	PT,VT(12)	Under Development
		Support CS-H-84	PT,VT(12)	Under Development
		Support CS-H-85C	PT,VT(12)	Under Development
		CRD Scram Discharge Instrument Volume (North)		
		Support SDV-N-R11	PT(12)	Under Development
		Support SDV-N-A01	PT(12)	Under Development
		CRD Scram Discharge Instrument Volume (South)		
		Support SDV-S-RO1	PT(12)	Under Development
		Support SDV-S-A01	PT(12)	Under Development

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A. Nondestructive Examinations

Category	Component Description	Component Identification	Examination	Isometric (1)
C-E-2	Non-Welded Supports	CRD Scram Discharge Header (North)		
		Support SDV-N-H01	VT(12)	Under Development
		Support SDV-N-R10	VT(12)	Under Development
		Support H-1	VT(12)	Under Development
		Support H-2	VT(12)	Under Development
		Support H-3	VT(12)	Under Development
		Support H-4	VT(12)	Under Development
		Support H-5	VT(12)	Under Development
		Support H-6	VT(12)	Under Development
		Support H-7	VT(12)	Under Development
		Support H-8	VT(12)	Under Development
		Support H-9	VT(12)	Under Development
		Support H-10	VT(12)	Under Development
		Support H-11	VT(12)	Under Development
		Support H-12	VT(12)	Under Development
		Support H-13	VT(12)	Under Development
		Support H-14	VT(12)	Under Development
		Support H-17	VT(12)	Under Development
	Non-Welded Supports	CRD Scram Discharge Header (South)		
		Support SDV-S-H01	VT(12)	Under Development
		Support H-18	VT(12)	Under Development
		Support H-20	VT(12)	Under Development
		Support H-21	VT(12)	Under Development
		Support H-22	VT(12)	under Development
		Support H-23	VT(12)	Under Development
		Support H-24	VT(12)	Under Development
		Support H-25	VT(12)	Under Development
		Support H-26	VT(12)	Under Development

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A. Nondestructive Examinations

Category	Component Description	Component Identification	Examination	Isometric (1)
C-E-2	Non-Welded Supports	CRD Scram Discharge Header (South)		
		Support H-28	VT(12)	Under Development
		Support H-29	VT(12)	Under Development
		Support H-30	VT(12)	Under Development
		Support H-31	VT(12)	Under Development
		Support H-32	VT(12)	Under Development
		Support H-33	VT(12)	Under Development
		Support H-34	VT(12)	Under Development
		Support H-35	VT(12)	Under Development
		Support H-36	VT(12)	Under Development
		Line HPCI-15B		
		Support HD-22C	VT	I-4
		Support H-32	VT(12)	I-4
		Line HPCI-3		
		Support H-39	VT(12)	I-3
		Support H-107	VT(12)	I-3
		Support H-108	VT(12)	I-3
		Line MS-4B		
		Support HD-102B	VT	I-2
		Support H-103A	VT	I-2
		Support H-3	VT(11)(12)	I-2
		Support HD-3	VT(11)	I-2
		Support H-5	VT(11)	I-2
		Support H-6	VT(11)	I-2
		Support HD-6	VT(11)	I-2
		Support HD-8C	VT(11)	I-2

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A. Nondestructive Examinations

Category	Component Description	Component Identification	Examination	Isometric (1)
C-E-2	Non-Welded Supports			
		Line MS-4B		
		Support HD-13A	VT(11)	I-2
		Support HD-102A	VT(11)	I-2
		Support H-103B	VT(11)	I-2
		Support HD-103C	VT(11)	I-2
		Support HD-102D	VT(11)	I-2
		Line RHR-1A		
		Support H-181	VT(12)	I-7A
		Support H-185F	VT(12)	Under Development
		Support H-183	VT(12)	I-8
		Line RHR-1B		
		Support H-127	VT(12)	I-7
		Support HD-127K	VT(12)	I-7B
		Support HD-127M	VT(12)	Under Development
		Line RHR-2A		
		Support H-184	VT(12)	I-8
		Support HD-184A	VT(12)	Under Development
		Support HD-184B	VT(12)	Under Development
		Line RHR-2B		
		Support HD-127J	VT(12)	I-9
		Support HD-127L	VT(12)	Under Development
		Support HD-127C	VT(12)	I-9
		Support HD-127D	VT(12)	I-9
		Line RHR-2D		
		Support HD-127F	VT(12)	I-9
		Support HD-127G	VT(12)	I-9

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A. Nondestructive Examinations

Category	Component Description	Component Identification	Examination	Isometric (1)
C-E-2	Non-Welded Supports	Line RHR-3B		
		Support HD-129C	VT	I-10B
		Line RHR-3A		
		Support HD-130B	VT(12)	I-10A
		Line RHR-3D		
		Support HD-188B	VT	I-10B
		Line RHR-7		
		Support HD-16B	VT	I-13
		Line RHR-8		
		Support HD-200J	VT	I-14
		Line RHR-10		
		Support H-192	VT	I-15
		Support CS-HD-54E	VT(12)	I-15
		Line RHR-12		
		Support CS-HD-86A	VT(12)	I-16
		Line RHR-15		
		Support HD-134	VT(12)	I-16
		Support CS-H-86A	VT(12)	I-16
		Line RHR-17		
		Support CS-HD-54A	VT(12)	I-15

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10. Abstract of Examination

A. Nondestructive Examinations

Category	Component Description	Component Identification	Examination	Isometric (1)
C-E-2	Non-Welded Supports	Line RHR-20		
		Support CS-HD-86C	VT(12)	I-16
		Line RHR-23		
		Support CS-HD-54C	VT(12)	I-15
		Line CS-2A		
		Support H-54	VT(12)	I-6A
		Support HD-90B	VT(12)	I-6A
		Support HD-90C	VT(12)	Under Development
		Line CS-2B		
		Support CS-H-42	VT(12)	I-6B
		Support CS-H-43	VT(12)	I-6B
		Support CS-H-46	VT(12)	I-6B
		Support CS-HD-55B	VT(12)	I-6B
		Support CS-HD-85D	VT	I-6B
		Line CS-3B		
		Support CS-HD-42	VT(12)	I-6B
		Line CS-6A		
		Support CS-HD-54G	VT(12)	I-6A
C-F	Pressure Retaining Welds In Piping Which Circulates Reactor Coolant	Line RHR-1B		
		Weld S-9	UT	I-7B

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A. Nondestructive Examinations

Category	Component Description	Component Identification	Examination	Isometric (1)
C-F	Pressure Retaining Welds In Piping Which Circulates Reactor Coolant	Line RHR-2B		
		Weld S-7	UT	I-9
		Line RHR-3A		
		Weld S-4	UT	I-10A
		Line RHR-5A		
		Weld S-1	UT	I-11
C-G	Pressure Retaining Welds In Non-Reactor Coolant Piping	Line HPCI-3		
		Weld F-2	UT	I-3
		Line CS-3B		
		Weld S-3	UT	I-6B
		Line RHR-17		
		Weld S-7	UT	I-15
		Line RHR-40		
		Weld S-13	UT	I-17

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10. Abstract of Examination

A. Nondestructive Examinations

Category	Component Description	Component Identification	Examination	Isometric (1)
C-G	Pressure Retaining Welds In Non-Reactor Coolant Piping			
		CRD Scram Discharge Instrument Volume (North)		
		Weld 4	UT(12)	Under Development
		Weld 5	UT(12)	Under Development
		Weld 6	UT(12)	Under Development
		Weld 20	UT(12)	Under Development
		CRD Scram Discharge Header (North)		
		Weld 6A-1A	UT(12)	Under Development
		Weld 6A-2A	UT(12)	Under Development
		Weld 6A-3A	UT(12)	Under Development
		Weld 6A-5A	UT(12)	Under Development
		Weld 6A-6A	UT(12)	Under Development
		Weld 6A-7A	UT(12)	Under Development
		Weld 6A-8A	UT(12)	Under Development
		Weld 6A-9A	UT(12)	Under Development
		Weld 6A-10A	UT(12)	Under Development
		Weld 6A-11A	UT(12)	Under Development
		Weld 6A-12A	UT(12)	Under Development
		Weld 6A-13A	UT(12)	Under Development
		Weld 6A-14A	UT(12)	Under Development
		CRD Scram Discharge Instrument Volume (South)		
		Weld 4	UT(12)	Under Development
		Weld 5	UT(12)	Under Development
		Weld 6	UT(12)	Under Development
		Weld 7	UT(12)	Under Development
		Weld 20	UT(12)	Under Development

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A. Nondestructive Examinations

Category	Component Description	Component Identification	Examination	Isometric (1)
C-G	Pressure Retaining Welds in Non-Reactor Coolant Piping (Cont'd)	CRD Scram Discharge Header (South)		
		Weld 5A-1A	UT(12)	Under Development
		Weld 5A-2A	UT(12)	Under Development
		Weld 5A-3A	UT(12)	Under Development
		Weld 5A-5A	UT(12)	Under Development
		Weld 5A-6A	UT(12)	Under Development
		Weld 5A-7A	UT(12)	Under Development
		Weld 5A-8A	UT(12)	Under Development
		Weld 5A-9A	UT(12)	Under Development
		Weld 5A-10A	UT(12)	Under Development
		Weld 5A-11A	UT(12)	Under Development
SAFETY CLASS 2 VALVES	Bolting >1" Diameter and Corresponding Nuts	Line RHR-6		
		Valve V10-65A (32 bolts in place)	VT	I-12

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A. Nondestructive Examinations

Category	Component Description	Component Identification	Examination	Isometric (1)
SAFETY CLASS 3 SUPPORTS				
IWD-2410(C)	Hangers and Supports >4" NPS	Line SW-1A		
		Support H-244	VT	D-6
		Support HD-244C	VT	D-6
		Support RSW-HD-88E	VT	D-3
		Support RSW-HD-88C	VT	D-3
		Line SW-1B		
		Support H-246	VT	D-6
		Support HD-246C	VT	D-6
		Support RSW-HD-230B	VT	D-5
		Support RSW-HD-230C	VT	D-5
		Line SW-1C		
		Support HD-244D	VT	D-6
		Line SW-1D		
		Support HD-244E	VT	D-6
		Line SW-2B		
		Support HD-246A	VT	D-6
		Line SW-3		
		Support HD-246B	VT	D-3

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A. Nondestructive Examinations

Category	Component Description	Component Identification	Examination	Isometric (1)
IWD-2410(C)	Hangers and Supports >4" NPS			
		Line SW-6A		
		Support RSW-HD133	VT	D-3
		Support RSW-HD221	VT	D-3
		Support RSW-HD220B	VT	D-3
		Support RSW-H-221	VT	D-3
		Support RSW-H-220	VT	D-3
		Line SW-6B		
		Support RSW-HD126	VT	D-5
		Support RSW-HD233C	VT	D-5
		Support RSW-HD233B	VT	D-5
		Support RSW-HD233A	VT	D-5
		Support RSW-H233	VT	D-5
		Line SW-6C		
		Support RSW-HD220C	VT	D-3
		Line SW-6D		
		Support RSW-HD-232A	VT	D-5
		Line SW-8		
		Support RSW-HD-230D	VT	D-5
		Line SW-18A&B		
		Support H-7	VT	D-2
		Support H-187	VT	D-1
		Support HD-197A	VT	D-1
		Support HD-200B	VT	D-1
		Support H-55	VT	D-1
		Support H-195	VT	D-1

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Category	Component Description	Component Identification	Examination	Isometric (1)
IWD-2410(C)	Hangers and Supports >4" NPS			
		Line SW-18A		
		Support HD-23	VT	D-2
		Support HD-76B	VT	D-2
		Support HD-76A	VT	D-2
		Support H-74	VT	D-2
		Support H-81	VT	D-2
		Support H-82	VT	D-2
		Support H-188	VT	D-2
		Support H-189	VT	D-1
		Support H-193	VT	D-1
		Support H-194	VT	D-1
		Support H-198	VT	D-1
		Support H-201	VT	D-1
		Support H-204	VT(12)	D-1
		Support H-205	VT	D-1
		Support RSW-H219	VT	D-4
		Support RSW-HD218D	VT	D-4
		Support RSW-H218	VT	D-4
		Support RSW-HD218B	VT	D-4
		Support RSW-HD217D	VT	D-4
		Support RSW-HD217	VT	D-4
		Support RSW-HD217C	VT	D-4
		Support RSW-HD217B	VT	D-3
		Support RSW-HD217A	VT	D-3
		Support RSW-HD216A	VT	D-3
		Support RSW-HD216B	VT	D-3
		Line SW-18B		
		Support HD-7A	VT	D-2
		Support H-80	VT	D-2
		Support H-80D	VT	D-2
		Support H-80C	VT	D-2
		Support H-13	VT	D-2
		Support H-79	VT	D-2

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A. Nondestructive Examinations

Category	Component Description	Component Identification	Examination	Isometric (1)
IWD-2410(C)	Hangers and Supports >4" NPS	Line SW-18B (Cont'd)		
		Support H-11	VT	D-2
		Support HD-75	VT	D-2
		Support H-75	VT	D-2
		Support H-73	VT	D-2
		Support HD-192	VT	D-1
		Support H-192	VT	D-1
		Support H-196	VT	D-1
		Support H-199	VT	D-1
		Support H-203	VT(12)	D-1
		Support RSW-HD236C	VT	D-4
		Support RSW-H103	VT	D-4
		Support RSW-HD236B	VT	D-4
		Support RSW-HD236A	VT	D-4
		Support RSW-H100	VT	D-4
		Support RSW-H105	VT	D-4
		Support RSW-HD235E	VT	D-4
		Support RSW-HD235D	VT	D-4
		Support RSW-H235	VT	D-4
		Support RSW-HD235C	VT	D-5
		Support RSW-HD231A	VT	D-5
		Support RSW-HD235B	VT	D-5
		Support RSW-HD235A	VT	D-5
		Line SW-18C		
		Support RSW-HD216C	VT	D-3
		Line SW-18D		
		Support RSW-HD233D	VT	D-5

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10. Abstract of Examination

A. Nondestructive Examinations

Category	Component Description	Component Identification	Examination	Isometric (1)
IWD-2410(C)	Hangers and Supports >4" NPS	Line RCW-1A		
		Support RCW-HD142A	VT	D-12
		Support RCW-H142	VT	D-12
		Support RCW-H93	VT	D-12
		Support RCW-HD93	VT	D-12
		Support RCW-HD91A	VT	D-12
		support RCW-H91	VT	D-12
		Support RCW-HD91B	VT	D-12
		Line RCW-2A		
		Support RCW-HD162A	VT	D-12
		Support RCW-HD162B	VT	D-12
		Support RCW-H162	VT	D-12
		Support RCW-H161	VT	D-12
		Support RCW-H161A	VT	D-12
		Support RCW-HD161C	VT	D-12
		Line RCW-2B		
		Support RCW-HD162C	VT	D-12
		Support RCW-HD161B	VT	D-12
		Support RCW-HD161D	VT	D-12
		Line RCW-3A		
		Support RCW-HD156A	VT	D-12
		Support RCW-H156	VT	D-12
		Line RCW-4A		
		Support RCW-H94	VT(12)	D-12
		Support RCW-H-160	VT(12)	Under Development

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10. Abstract of Examination

A. Nondestructive Examinations

Category	Component Description	Component Identification	Examination	Isometric (1)
IWD-2410(C)	Hangers and Supports >4" NPS	Line RCW-5A		
		Support RCW-H148	VT(12)	D-13
		Line FPC-3B		
		Support CUN-HD-49A	VT(12)	Under Development

NOTES:

1. Referenced isometric drawings are contained in the Vermont Yankee Inservice Inspection Program or, if under development, will be included in the next revision.

2. This examination was carried over from 1981.

3. Vessel Closure Bushings were uninspectable because the flange joint was not completely disassembled at time of inspection (closure studs in place).

4. The peripheral CRD housing penetrations through the bottom head dollar plate were visually examined for evidence of leakage. This examination supplements one performed during the vessel pressure test in 1980, and also responds to INPO SER 3-83.

5. These circumferential butt welds in the Reactor Recirculation System were examined in accordance with NRC IE Bulletin 83-02.

6. These Recirculation System welds were also inspected in accordance with the VY ISI Program and Plant Technical Specifications; the inspection included 12" of the longitudional seam weld adjacent to the circumferential butt weld.

7. This Recirculation System weld was also examined to re-evaluate indications identified during the 1981 Inservice Inspection. Techniques developed for performance of Bulletin 83-02 examinations have shown these indications to be geometric in origin.

8. Subsequent to overlay repair of Reactor Recirculation System welds, the load settings of these constant supports were inspected and adjusted as necessary to meet the requirements of the VY ISI Program.

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10. Abstract of Examination

A. Nondestructive Examinations

Category	Component Description	Component Identification	Examination	Isometric (1)

NOTES: (Cont'd)

9. Additional examinations performed in accordance with IWB-2430.

10. These saddle-type welded supports were visually examined in accordance with Relief Request Basis C-2 of the VY ISI Program.

11. Additional examinations performed in accordance with IWC-2430.

12. Baseline examinations of components installed or modified during the 1983 Refueling Outage performed in accordance with IWA-4220.

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10. Abstract of Examinations

B. Hydrostatic Tests

The following system pressure tests were performed in accordance with IWA-4210 and Subarticles IWA-5000, IWB-5000, IWC-5000, and/or IWD-5000, as appropriate:

1. New Safety Class 1 welds in Reactor Water Cleanup line CUW-19 were inspected for leakage and accepted during the primary coolant system hydrostatic pressure test, following extensive piping replacement.

2. Weld overlay repairs on Safety Class 1 Reactor Recirculation riser piping welds were inspected for leakage and accepted during the primary coolant system leakage test and again, remotely, during the primary coolant system hydrostatic pressure test. In both cases, the test pressure was held for 4 hours. This approach was necessary because the repaired areas were inaccessible during the pressure test due to elevated upper drywell temperatures.

3. New Safety Class 2 welds in the North and South Control Rod Drive Scram Discharge Volumes, Instrument Volumes, and associated piping were hydrostatically tested and and accepted following extensive piping and component replacement.

4. Safety Class 2 welds in the Reactor Recirculation Pump Seal Purge System were hydrostatically tested and accepted following installation of this new system.

5. New Safety Class 2 welds in the Primary Containment Atmospheric Control System were pneumatically tested and accepted following a minor piping modification. This test was performed in accordance with Relief Request Basis H-2 of the Vermont Yankee Inservice Inspection Program.

6. New Safety Class 2 welds in the Residual Heat Removal System were hydrostatically tested and accepted following relocation of a relief valve.

7. New Safety Class 3 welds in two Residual Heat Removal Service Water Pump motor cooler lines were hydrostatically tested and accepted following replacement of piping and components. (See attached ANI Exceptions page for a description of this test).

8. New Safety Class 3 welds in the Reactor Water Cleanup System were hydrostatically tested and accepted following extensive replacement of piping and components.

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10. Abstract of Examinations

B. Hydrostatic Tests

9. New Safety Class 2 welds in the Containment Sampling System and the Nitrogen Inerting System (PCAC portion) were pneumaticall tested and accepted following replacement of valves. This test was performed in accordance with Relief Request Bases H-7 and H-2 of the Vermont Yankee Inservice Inspection Program.

10. A primary coolant system leakage test in accordance with IWB-5221 and a primary coolant system hydrostatic pressure test in accordance with IWA-4210 and IWB-5222 were performed and accepted prior to plant startup.

C. Ultrasonic Examination Procedures

1. YA-UT-1, Rev. 2, Ultrasonic Examination - General Requirements.

2. YA-UT-2, Rev. 1, Ultrasonic Examination of Vessels, Circumferential, Longitudional, Meridional and Flange Welds.

3. YA-UT-4, Rev. 1, Ultrasonic Examination of Vessels, Nozzle to Vessel Welds.

4. YA-UT-5, Rev. 1, Ultrasonic Examination of Vessels, Integral Support Attachment Welds.

5. YA-UT-6, Rev. 1, Ultrasonic Examination of Flange Ligaments

6. YA-UT-7, Rev. 2, Ultrasonic Examination of Bolting

7. YA-UT-8, Rev. 1, Ultrasonic Examination of Vessel Closure Nuts.

8. YA-UT-9, Rev. 2, Ultrasonic Examination of Piping Ferritic Welds.

9. YA-UT-10, Rev. 3, Ultrasonic Examination of Piping Austenitic Welds Including Appendix A for Detection of IGSCC.

10. YA-UT-11, Rev. 2, Ultrasonic Examination of Piping Dissimilar Metal Welds.

11. YA-UT-13, Rev. 1, Ultrasonic Examination of Vessels, Nozzle Inner Radius.

12. YA-UT-14, Rev. 2, Ultrasonic Examination of Piping Base Material & Weld Heat Affected Zones.

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10. Abstract of Examinations

C. Ultrasonic Examination Procedures

13. YA-UT-15, Rev. 2, Ultrasonic Examination of Piping, Straight Beam Method when used for Weld & Heat Affected Zone Examination.

14. YA-UT-16, Rev. 0, Ultrasonic Examination of Full Penetration Welds Per Section V, Article V.

15. YA-UT-83-13-1, Rev. 0, Ultrasonic Examination, Straight Beam Method when Used for Examination of Weld Overlay Clad Bond.

16. YA-UT-83-13-2, Rev. 0, Ultrasonic Examination, Angle Beam Method When Used for Examination of Weld Overlay Clad Bond and Clad Flaw Indications.

17. Magnaflux Procedure 2.2.A.35, Rev. 2, including Engineering Notice 83.2 and 83.5, Ultrasonic Examination of Austenitic Piping and Branch Connection Welds for IGSCC.

D. Liquid Penetrant Examination Procedures

1. YA-PE-2, Rev. 3, Liquid Penetrant Examination.

2. Mercury Company Procedure QCP-3104, Rev. 1, Liquid Penetrant Examination.

E, Magnetic Particle Examination Procedures

1. YA-MP-1, Rev. 1, Magnetic Particle Examination

F. Visual Examination Procedures

1. YA-VT-1, Rev. 4, Visual Examination.
2. Mercury Company Procedure QCP-3110.2, Rev. 2, including Appendix A, Rev. 0 Steel Structure Inspection, Support Components (Section XI)
3. OP 4101, Rev. 9, Vermont Yankee RPV Operational Hydro Test
4. OP 1412, Rev. 4, Jet Pump and Shroud Annulus Inspection
5. OP 1413, Rev. 0, Visual Examination of Miscellaneous Internal Reactor Vessel Brackets
6. OP 1414, Rev. 1, Core Spray Sparger Inspection
7. OP 1418, Rev. 0, Feedwater Sparger Inspection
8. OP 1419, Rev. 0, Visual Examination of Reactor Components below the Core Plate

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11. Abstract of Conditions Noted

A. Category B-J

1. During performance of scheduled ultrasonic examinations of Reactor Recirculation System riser piping welds 25 and 52, rejectable indications were discovered in the heat-affected zone (HAZ) on the pipe side of these pipe-to-safe end welds. Weld 25 exhibited indications approximately 15% through-wall-dimension (TWD) and 2" long, while the indications adjacent to Weld 52 were approximately 10% TWD, 360° intermittent in linear extent. These examinations, which were mandatory to complete the requirements of ASME Section XI and Plant Technical Specifications for the first 10 year inspection interval, comprised part of an extensive primary coolant piping augmented inspection effort involving 60 welds, which was undertaken in accordance with NRC IE Bulletin 83-02. This larger scope of work, including number and approximate size of all indications noted, has been addressed in our response to Bulletin 83-02, dated June 3, 1983. The augmented inspection program encompassed examination of all 40 circumferential welds in the Recirculation riser piping thus complying with IWB-2430.

B. Category B-K-2

1. During visual examination of non-welded Safety Class 1 supports, support FW-8 (one of one inspected) on the Feedwater System was found to have an incorrect load setting. As required by IWB-2430, an additional examination was conducted on a similar component in the system and no further rejectable conditions were discovered.

2. Visual examination of support CU-7 (one of one inspected) on Reactor Water Cleanup line CUW-18 revealed loose bolting on the pipe clamp attachment. As required by IWB-2430, an additional component on this line, support CU-8, was examined and further loose clamp bolting was found. At this point, all similar support components on this piping were examined and one additional support, CU-9, was found to have loose clamp bolting.

C. Category C-E-1

1. During visual examination of saddle-type support components on the High Pressure Coolant Injection pump discharge line HPCI-2/HPCI-15B, it was discovered that the saddle on support HD-22D (one of two inspected) showed evidence of radial deformation. Since this condition appeared to indicate a potentially significant structural deficiency, all saddle-type supports in this system were examined and the following supports were found to have varying degrees of similar deformation: HD-22B, HD-24, H-28, HD-35A, HD-35B, HD-35C, and HD-35D.

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11. Abstract of Conditions Noted

C. Category C-E-1 (Cont'd)

During performance of these additional examinations, which addressed all inspection parameters for each component, it was also discovered that supports HD-35C and HD-22A had incorrect load settings, HD-22C had loose structural member bolting and misaligned spring can pedestal, HD-22E had spalled concrete at wall anchor locations, HD-35B and HD-22B had a non-perpendicular relationship between the spring can pedestal and the support saddle, HD-24 had a cracked saddle-to-pipe fillet weld, and HD-35A had a saddle which was off-center to the supporting structural member. This examination constituted a 100% inspection of all similar support components in this subsystem.

2. During visual examination of saddle-type support HD-127A (one of one inspected) on the Residual Heat Removal Shutdown Cooling supply header RHR-1B, loose base plate anchor bolts were discovered. As required by IWC-2430, an additional examination was conducted on a similar component in this subsystem and no further rejectable conditions were found.

D. Category C-E-2

1. During baseline visual examination of all Control Rod Drive Scram Discharge Volume support components installed or modified as a result of system upgrades in accordance with NRC IE Bulletin 80-17, two supports, H-6 and H-32, were found to have loose or missing nuts on the U-bolt attachment to the pipe.

2. During visual examination of support components on the High Pressure Coolant Injection turbine steam supply line MS-4B, support HD-102B (one of two inspected) was found to have loose bolting on the pipe clamp attachment. As required by IWC-2430, additional examinations were performed on an equivalent number of similar components on this sub-system and support HD-102A was found to have loose pipe clamp bolting. At this point, all similar supports on this piping were visually examined and three additional supports, HD-103C, HD-3, and H-5 were found to have loose clamp bolting. During performance of these examinations, it was also noted that supports H-5 and HD-3 had incorrect load settings. It was decided to examine all spring hangers and supports within the group of similar components for adequacy of load settings. This additional examination revealed incorrect load settings on supports HD-13A, HD-103C and HD-103A.

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11. Abstract of Conditions Noted

D. Category C-E-2 (Cont'd)

3. During baseline visual examination of support HD-130B on the Residual Heat Removal pump discharge line RHR-3A, following removal of this support for access to an adjacent pipe weld and subsequent replacement, loose bolting was discovered on the pipe clamp attachment. Because this was a special case related to a planned maintenance activity, no additional examinations were conducted.

4. During visual examination of support HD-200J (one of one inspected) on the Residual Heat Removal Low Pressure Coolant Injection header, the spring can load setting was found to be incorrect. As required by IWC-2430, an additional examination was conducted on a similar component in this subsystem and no further rejectable conditions were discovered.

E. Code Subarticle IWD-2410(C)

1. Visual examinations were performed on 86 piping supports in the Service Water System and 21 piping supports in the Reactor Building Closed Cooling Water System while these Safety Class 3 systems were operating. The following rejectable conditions were noted. No additional examinations were performed, since none are required by ASME Section XI 1974 Edition, Summer 1975 Addenda for Class 3 systems.

a. Service Water System

1. Grout cracked under base plate:

Support RSW-HD-88C
Support RSW-HD-88D

2. Inadequate thread engagement on clevis bolting:

Support HD-192
Support H-193
Support H-203
Support RSW-H-221
Support RSW-H-233

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11. Abstract of Conditions Noted

E. Code Subarticle IWD-2410 (c) (Cont'd)

3. Missing nut on pipe clamp attachment:

Support RSW-HD-233C

4. Missing washer on base plate:

Support RSW-HD-235B

b. Reactor Building Closed Cooling Water System

1. Loose bolting on pipe clamp attachment:

Support RCW-H-161

2. Grout cracked under base plate:

Support RCW-HD-161D
Support RCW-HD-162A

3. Base plate not centered on grout pad:

Support RCW-HD-161C

4. Rod hanger not plumb:

Support RCW-HD-162B

5. Shim plate under base plate moved out-of-position:

Support RCW-HD-162C

12. Abstract of Corrective Measures Recommended and Taken

A. Category B-J

1. Welds 25 and 52 in the Recirculation riser piping were repaired using a weld overlay technique, along with 20 other welds of the same pipe size which were identified as defective under the augmented inspection program required by Bulletin 83-02.

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12. Abstract of Corrective Measures Recommended and Taken

A. Category B-J (Cont'd)

This technique and the scope of the repair effort have been described in detail in our response to the Bulletin. Post-weld ultrasonic examinations were performed to confirm adequate bonding of the weld metal to the base material, and to verify the integrity of the overlay layers. No rejectable indications were discovered as a result of these examinations. All reinspections were completed and accepted prior to plant startup, as dictated by Bulletin 83-02.

B. Category B-K-2

1. The incorrect load setting on Feedwater System Support FW-8 was adjusted to within specification requirements, visually reinspected, and accepted prior to plant startup.

2. The loose bolts on Reactor Water Cleanup System supports CU-7, CU-8 and CU-9 were tightened, visually reinspected and accepted prior to plant startup.

C. Category C-E-1

1. An engineering evaluation of support saddle deformation on the HPCI pump discharge line could not conclusively determine whether the degradation of these components was due to poor construction practices or to water hammer events experienced during early operating cycles. Engineering personnel performed an investigation of the piping to ascertain whether any stress damage had occurred as a result of support component degradation. Although no evidence of pressure boundary damage was found, a conservative position was taken that the design of these supports should be modified to prevent a recurrence of this problem. A design change was undertaken to replace the damaged support saddles with steel plate stock welded to the supporting members but not to the pressure boundary. Removal of the saddles was accomplished without penetrating the pipe surface, with the exception of supports HD-35A, HD-35C, HD-35D, and HD-22B which required minor grinding. Category C-E-2 non-welded supports were installed in place of existing saddles on supports HD-22D, HD-22B, HD-24, H-28, HD-35A, HD-35B, HD-35C, and HD-35D. A baseline visual examination was performed on all of these supports prior to plant startup and the pipe surface at supports HD-22B, HD-35A, HD-35C and HD-35D also received a liquid penetrant examination of ground areas. All results were satisfactory.

The additional deficiencies discovered in this subsystem were attributable to either normal service (loose bolting, load setting deviations) original plant construction (misaligned and non-perpendicular components) or water hammer events (spalled concrete, cracked fillet welds).

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12. Abstract of Corrective Measures Recommended and Taken

C. Category C-E-1 (Cont'd)

Normal corrective maintenance measures were used to tighten bolting, adjust load settings, and repair spalled concrete, while construction anomalies and cracked welds were corrected as part of the design change implementation. Furthermore, the water hammer problem which apparently caused some of these discrepancies was eliminated in 1977. The results of all corrective actions were visually reinspected and accepted prior to plant startup.

2. The loose base plate anchor bolts on Residual Heat Removal System support HD-127A were tightened, visually reinspected, and accepted prior to plant startup.

D. Category C-E-2

1. The loose and missing nuts on Control Rod Drive Scram Discharge Volume supports H-6 and H-32 were tightened or replaced with suitable spares, visually reinspected and accepted prior to plant startup.

2. The loose pipe clamp bolting on High Pressure Coolant Injection turbine steam supply line supports HD-102A, HD-102B, HD-103C, HD-3 and HD-5, and the incorrect load settings on supports HD-5, HD-3, HD-13A, HD-103C and HD-103A were corrected, visually reinspected and accepted prior to plant startup. The large number of similar discrepancies is attributable to the thermal and dynamic loading to which these supports are subjected during periodic surveillance testing.

3. The loose pipe clamp bolting on Residual Heat Removal System support HD-130B was tightened, visually reinspected, and accepted prior to plant startup.

4. The incorrect load setting on Residual Heat Removal System support HD-200J was adjusted to within specification requirements, visually reinspected, and accepted prior to plant startup.

E. Code Subarticle IWD-2410(c)

1. All support component discrepancies in the Service Water and Reactor Building Closed Cooling Water Systems were corrected as shown below, visually reinspected, and accepted prior to plant startup. Since these systems remain in service essentially 100% of the time, vibration-induced degradation of the type and extent experienced is not considered abnormal.

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12. Abstract of Corective Measure Recommended and Taken

E. Code Subarticle IWD-2410 (c) (Cont'd)

a. Service Water System

1. Based on an engineering recommendation, the cracked grout pads beneath the base plates of supports RSW-HD-88C and RSW-HD-88D were replaced with grout pads which exceed the outside dimensions of the base plates by 2" on all sides.

2. The inadequate clevis bolt thread engagement on supports H-192, H-221 and H-233 was corrected by tightening. On supports H-193 and H-203, this condition was corrected by replacement with a longer bolt of suitable material.

3&4. The missing pipe clamp nut on support RSW-HD-233C and the missing base plate washer on support RSW-HD-235B were replaced with spare parts of suitable material.

b. Reactor Building Closed Cooling Water System

1. The loose pipe clamp bolting on support RCW-H-161 was tightened.

2&3. The cracked grout pads beneath the base plates of supports RCW-HD-161D and RCW-HD-162A, and the off-center base plate-to-pad condition at support HD-161C were corrected by replacement of the grout pads with new pads which exceed the outside dimensions of the base plates by 2" on all sides.

4. The out-of-plumb rod hanger on support RCW-HD-162B was adjusted in the axial direction to achieve a vertical orientation. Adjustment in the circumferential direction was not possible without moving the ceiling-mounted base plate, but an engineering evaluation showed the out-of-plumb condition in that direction to be within acceptable tolerances.

5. The misaligned shim plate beneath support RCW-HD-162C was replaced with a larger steel plate which exceeds the outside dimension of the support base plate by 1/2" on all sides.

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Authorized Nuclear Inservice Inspector Exceptions

10. Abstract of Examinations

Pages 3 and 4

B. Hydrostatic Tests

1. Following replacement of piping and components in the cooling water lines to the "B" and "D" RHR Service Water pump motors, a hydrostatic pressure test was required at 1.1 times the system design pressure of 350 psig. However, it was discovered that these lines are not isolable from the suction side of the pumps, and pressurization of the motor cooler lines to the required 385 psig would have overpressurized the 125 psig suction piping. Ultimately, inservice leak testing of the system at normal operating pressure resulted in a satisfactory test of the "B" and "D" motor cooler lines at pressures of 320 and 280 psig, respectively.

2. Safety Class 2 and 3 piping systems involved in the Mark I Containment upgrade were not hydrostatically tested following attachment of new and modified support components to the pressure boundary by fillet welding. This is consistent with the position established in later editions of ASME Section XI, which exempt such partial-penetration welding from pressure test requirements. These welds were subjected to the surface and/or visual examinations required by ASME Section XI for Class 2 and 3 support components.

Richard L. Lane 9/13/83
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