

PRIMARY CONTAINMENT  
LEAK RATE TESTING PROGRAM

for

Vermont Yankee Nuclear Power Corporation  
Vermont Yankee Unit 1

Description, Program, and Examination Schedule

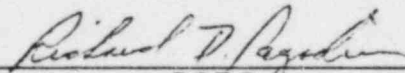
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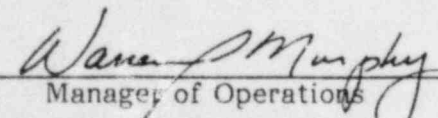
10CFR50, Appendix J  
Type B Testing  
Type C Testing

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PRIMARY CONTAINMENT  
LEAK RATE TESTING PROGRAM

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## INTRODUCTION

### VERMONT YANKEE PRIMARY CONTAINMENT LEAK RATE TESTING PROGRAM

The Primary Containment serves as a leak tight barrier against the uncontrolled release of radioactivity to the environment.

The leak rate testing program verifies the integrity of the primary reactor containment, related systems and components penetrating the primary containment pressure boundary.

The VY PCLRT program conforms to regulations set forth by 10CFR50 Appendix J, entitled "Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactor".

There are three types of tests which make up the VY PCLRT program; they are: Type A, B and C tests. The Type A test is implemented by O.P. 4029 whereas the Type B and C test are implemented by O.P. 4030. The Type A test measures the primary reactor containment overall integrated leakage rate. The Type B test measures the local leakage across the primary containment penetrations and seals, which are listed in the VY PCLRT Program. The Type C test measures the local leakage across the containment isolation valves, which are listed in the VY PCLRT Program.

## NOTES

1. Type C testing is not required for the 1-inch diameter lines with at least one isolation valve and a cap in series, which is under administrative control or where plug-in test taps form the second barrier, which is also under administrative control.
2. Type C testing is not required for lines forming a closed, seismic qualified loop totally within the reactor building, whose 30-days water supply is assured via the torus or reactor vessel and no single active failure can preclude the continuous availability of a water seal.
3. Type C testing is not required for valves which remain open with the system operating at pressures greater than Pa throughout the 30-day post-accident period, considering possible single active failure.
4. Type C testing is not required for instrument lines of 1-inch or less that meet the provisions of Regulatory Guide 1.11.
5. Type C testing is not required for instrument lines of 1-inch or less forming a closed system within containment with no interface with containment atmosphere, has no automatic isolation, but remote manual isolation upon failure of a line.
6. Type C testing is not required for standby liquid control system lines equipped with normally closed valves, leak tight against reactor system pressure with explosive charges to open the valves under certain conditions.
7. Appendix J permits testing of isolation valves in the direction opposite the direction of accident pressure, where the leakage is equivalent in either direction.

Vermont Yankee's Leak Test Program List

In order to verify containment isolation, the Type A, B, and C Tests are performed in accordance with 10CFR50, Appendix J. The Type B and C tests are used to quantify the ability of the containment penetrations and isolation valves to perform their intended function.

The program list includes all the penetrations which are to be tested as per the requirements of Appendix J. Where the requirements of Appendix J do not apply, the program's comment section provides reference notes which contain the applicable explanations.

Where exemptions to Appendix J are required, the program's comment section will provide the relief request number.



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Containment Penetration Number	System or Function	Reference Drawing Number	Appendix J Required Testing	VY Proposed Testing	First Isolation Valve (s)	Size (in)	Second Isolation Valve (s)	Size (in)	Comments
X-1	Equipment Access Hatch	G-191148	B - Air or Nitrogen	B Air					
X-2	Airlock	G-191148 G-191175	B - Air or Nitrogen	B Air	16-19-13B	3/4	16-19-13A 16-19-56	3/4 3/4	Strongback Req. for full press test - testing not required for 16-19-56; see Note 1.
X-3	Drywell head flange	G-191175	B - Air or Nitrogen	B Air					Testing not required for test tap; see Note 1.
X-4	Drywell head access hatch	G-191148	B - Air or Nitrogen	B Air					Testing not required for test tap; see Note 1.
X-5 A thru H	chk. vlv. covers vent from torus	G-191175	B - Air or Nitrogen	B Air					Testing not required for test tap; see Note 1.
X-5 A thru H	Check valve shaft seals	G-191175	B - Air or Nitrogen	B Air					Testing not required for test tap; see Note 1.
X-6	CRD Removal Hatch	G-191148	B - Air or Nitrogen	B Air					Testing not required for test tap; see Note 1.
X-7A	"A" Steam line	G-191167	C - Air or Nitrogen	C * Air	2-80A	18	2-86A 2-83A	18 3/4	Testing not required for vlv. 2-83A; see Note 1.
X-7A	"A" Steam line bellows		B - Air or Nitrogen	B Air					Testing not required for test tap; see Note 1.
X-7B	"B" Steam line	G-191167	C - Air or Nitrogen	C * Air	2-80B	18	2-86B 2-83B	18 3/4	Testing not required for vlv. 2-83B; see Note 1.
X-7B	"B" Steam line bellows		B - Air or Nitrogen	B Air					Testing not required for test tap; see Note 1.
X-7C	"C" Steam line	G-191167	C - Air or Nitrogen	C * Air	2-80C	18	2-86C 2-83C	18 3/4	Testing not required for vlv. 2-83C; see Note 1.
X-7C	"C" Steam line bellows		B - Air or Nitrogen	B Air					Testing not required for test tap; see Note 1.
X-7D	"D" Steam line	G-191167	C - Air or Nitrogen	C * Air	2-80D	18	2-86D 2-83D	18 3/4	Testing not required for vlv. 2-83D, see Note 1.
X-7D	"D" Steam line bellows		B - Air or Nitrogen	B Air					Testing not required for test tap; see Note 1.
X-8	Main steam drain	G-191167	C - Air or Nitrogen	C Air	2-74	3	2-77 2-75	3 3/4	Testing not required for test tap; see Note 1.
				* See relief request D-2.					

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Containment Penetration Number	System or Function	Reference Drawing Number	Appendix J Required Testing	VY Proposed Testing	First Isolation Valve (s)	Size (in)	Second Isolation Valve (s)	Size (in)	Comments
X-9A	"A" Feedwater	G-191157 G-191167 G-191169	C - Air or Nitrogen	C Air  See Comments	2 - 28A	16	2-27A 2-94A	16 3/4	Testing not required for vlv. 2-28A; see relief request D-1 Testing not required for vlv. 2-94A; see Note 1.
X-9B	"B" Feedwater	G-191157 G-191167 G-191174 G-191178	C - Air or Nitrogen	C Air  See Comments	2 - 28B	16	2-96A 2-94B	16 3/4	Testing not required for vlv. 2-28B; see relief request D-1 Testing not required for vlv. 2-94B; see Note 1.
X-10	RCIC Steam supply	G-191167 G-191174	C - Air or Nitrogen	C Air	13 - 15	3	13-16 13-46A 13-150A/B	3 3/4 1	Testing not required for vlv. 13-46A; see Note 1.
X-11	HPCI Steam supply	G-191167 G-191169	C - Air or Nitrogen	C Air	23 - 15	10	23-16 23-27A 23-160A/B	10 3/4 1	Testing not required for vlv. 23-27A; see Note 1.
X-12	RHR - Shut. cool. supply	G-191172	C - Air or Nitrogen	See Comments	10 - 18	20	10-17 10-84	20 3/4	Testing not required for the system; see Note 2.
X-13A	LPCI Injection	G-191167 G-191172	C - Air or Nitrogen	See Comments	10 - 46B	24	10-25B 10-78B	24 3/4	Testing not required for the system; see Note 2.
X-13B				See Comments	10 - 46A	24	10-25A 10-78A	24 3/4	Testing not required for the system; see Note 2.
X-14	RWCU Suction	G-191167 G-191178	C - Air or Nitrogen	See Comments	12 - 15	4	12-18 12-16	4 3/4	Testing not required for the system; see Note 2.
X-15	Spare	G-191419	A - Air	A Air					None
X-16A	Core Spray	G-191167 G-191168	C - Air or Nitrogen	See Comments	14 - 13B 14 - 30B	8 2	14-12B	8	Testing not required for the system; see Note 2.
X-16B				See Comments	14 - 13A 14 - 30A	8 2	14-12A	8	Testing not required for the system; see Note 2.
X-17	RHR Head Spray	G-191167 G-191172	None	C Air	10 - 29 10 - 32	4 4	10-33 10-83	4 3/4	Testing not required for vlv. 10-83; see Note 1. Testing not req. for vlvs. 10-29, 32, 33; see Note 2.
X-18	Drywell Floor drain	G-191177 Sh. 1	C - Air or Nitrogen	C Air	20 - 82 20 - 78A	3 3/4	20-83 20-79A 20-78B	3 3/4 3/4	Testing not required for vlvs. 20-79A, 78A, 78B; see Note 1.
X-19	Drywell Equip. drain	G-191177 Sh. 1	C - Air or Nitrogen	C Air	20 - 94 20 - 93A	3 3/4	20-95 20-92A 20-93B	3 3/4 3/4	Testing not required for vlvs. 20-92A, 93A, 93B; see Note 1.
X-20	Spare	G-191148	A - Air	A - Air		6			None



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Containment Penetration Number	System or Function	Reference Drawing Number	Appendix J Required Testing	VY Proposed Testing	First Isolation Valve (s)	Size (in)	Second Isolation Valve (s)	Size (in)	Comments
X-21	Service Air	G-191160 Sh6	A - Air	A - Air	72-37B	2	See Comment		Welded cap outside drywell.
X-22	Inst. Air	G-191160 Sh4	C - Air or Nitrogen	C - Air	72-89C 72-152	2 3/4	72-89B 72-103 72-153A	2 2 3/4	Testing not required for vlv. 72-152, 153A. See Note 1.
X-23	Inlet RBCCW	G-191159 Sh3	C - Air or Nitrogen	See Comments	70-113	8	None		Testing not required for the system; see Note 3.
X-24	Outlet				70-117	8	None		
X-25	Atmosphere Control & CAD	G-191175 VY-E-75-002	C - Air or Nitrogen	C - Air	16-19-7A 16-19-6A 16-19-12A VG-9A	18 3 1 1	16-19-7 16-19-6 VC-22A VG-17A	1 1	Testing not required for VC-12A, 17A; see Note 1. Valves 16-19-6A, 7A is tested in the rev. direction See Note 7.
X-26	Atmosphere Control & CAD	G-191175 VY-E-75-002	C - Air or Nitrogen	C - Air	16-19-8 16-19-51/52 16-20-22B NG-13A/B 16-20-30 NG-19 16-19-33A	18 2 1 1 3/4 1 3/4	16-20-31 16-19-33B 16-19-35A 16-19-9 16-19-23 16-19-53 NG-11A/B 16-20-20 AC-22B	3/4 3/4 18 6 1 1 1 1	Testing not required for vlv. NG-19, AC-22B, 30, 31 16-19-33A, 33B, 35A; see Note 1. Valve 16-19-8 is tested in the reverse direction; see Note 7.
X-27A	Core Spray Instrument	G-191267	C - Air or Nitrogen	See Comments	SL-25	1	None		Testing not required for vlv. SL-25, -27; see Note 4
X-27B		G-191168			SL -27	1			
X-27C	Core Spray Delta P	G-191168	C - Air or Nitrogen	See Comments	SL-31A	1	None		Testing not required for vlv. SL-31A, 31B; see Note 4
X-27D					SL-31B	1			
X-27E	HPCI Auto Isolation Signal	G-191169	C - Air or Nitrogen	See Comments	SL-37A	1	None		Testing not required for vlv., SL-37A, SL-37B; see Note 4.
X-27F					SL-37B	1			
X-28A	RV Press & Level	G-191267	C - Air or Nitrogen	See Comments	SL-19A	1	None		Testing not required for vlv. SL-19A; see Note 4.
X-28B	Reactor Vessel Level	G-191267	C - Air or Nitrogen	See Comments	SL-17A	1	None		Testing not required for vlv., SL-17A, 15A, 13A, 11; see Note 4.
X-28C					SL-15A	1			
X-28D					SL-13A	1			
X-28E					SL-11	1			
X-28F	RV Head Leakage	G-191167	C - Air or Nitrogen	See Comments	SL-23	1			Testing not required for vlv. SL-23; see Note 4.

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Containment Penetration Number	System or Function	Reference Drawing Number	Appendix J Required Testing	VY Proposed Testing	First Isolation Valve (s)	Size (in)	Second Isolation Valve (s)	Size (in)	Comments
X-29A	Reactor Vessel Level	G-191267	C - Air or Nitrogen	See Comments	SL-19B	1	None		Testing not required for vlvs. SL-19B, 29B, 17B, 15B, 13B; see Note 4.
X-29B					SL-29B	1			
X-29C					SL-17B	1			
X-29D					SL-15B	1			
					SL-13B	1			
X-30A	Main Steam Flow "A"	G-191167	C - Air or Nitrogen	See Comments	SL-73A	1	None		Testing not required for vlvs. SL-73A, 73B; see Note 4.
X-30B					SL-73B	1			
X-30C	Main Steam Flow "B"	G-191167	C - Air or Nitrogen	See Comments	SL-73C	1	None		Testing not required for vlvs. SL-73C, 73D; See Note 4.
X-30D					SL-73D	1			
X-30E	Recirc. Loop Pressure	G-191167	C - Air or Nitrogen	See Comments	SL-305A	1	None		Testing not required for vlvs. SL-305A, 305B; see Note 4.
X-30F					SL-305B	1			
X-31A	Recirc. Pump Delta P	G-191167	C - Air or Nitrogen	See Comments	SL-62A	1	None		Testing not required for vlvs. SL-62A, 62B; see Note 4.
X-31B					SL-62B	1			
X-31C	Recirc. Loop Flow	G-191167	C - Air or Nitrogen	See Comments	SL-64A	1	None		Testing not required for vlvs. SL-64A, 64B; see Note 4.
X-31D					SL-64B	1			
X-31E	Recirc. Pump Seal Leak Detection/seal purge	G-191167 G-191159 Sh. 5	C - Air or Nitrogen	See Comments	V-3-410A	1	V-3-408A		Testing not req. for vlvs. SL-2-7A, SL-2-28A; see Note 4. Testing not req. for vlvs. 3-40B, 410A, 411A. See Note 1. <i>100A</i>
X-31F					SL-2-7A				
X-32A	Recirc. Pump Delta P/seal purge	G-191167 G-191159 Sh. 5	C - Air or Nitrogen	See Comments	SL-2-28A	1	V-3-411A		Testing not required for vlvs. SL-62C, 62D; see Note 4. Testing not req. for vlvs. 3-407, 410B, 411B; see Note 1. <i>100B</i> →
X-32B					V-3-406	1			
X-32F					V-3-407	1			
X-33A					V-3-410B	1			
	V-3-413B	1	V-3-408B						
X-33A	CRD Pressure	G-191267	C - Air or Nitrogen	See Comments	SL-35	1	None		Testing not required for SL-35; See Note 4.
X-33B	HPCI Pressure	G-191169	C - Air or Nitrogen	See Comments	SL-37C	3/4	None		Testing not required for vlvs. SL-37C, 37D; see Note 4.
X-33C					SL-37D	3/4			
X-33D	Spare	G-191148	A - Air	A - Air	None		None		None
X-33E	RCIC Pressure	G-191174	C - Air or Nitrogen	See Comments	SL-55C	3/4	None		Testing not required for vlvs. SL-55C, 55D; see Note 4.
X-33F					SL-55D	3/4			
X-34A	Main Steam Flow "C"	G-191167	C - Air or Nitrogen	See Comments	SL-73E	1	None		Testing not required for vlvs. SL-73E, 73F. See 4.
X-34B					SL-73F	1			

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Containment Penetration Number	System or Function	Reference Drawing Number	Appendix J Required Testing	VY Proposed Testing	First Isolation Valve (s)	Size (in)	Second Isolation Valve (s)	Size (in)	Comments
X-34C X-34D	Main Steam Flow "b"	G-191167	C - Air or Nitrogen	See Comments	SL-73G SL-73H	1 1	None		Testing not required for vlvs. SL-73G, 73H; see Note 4.
X-34E X-34F	Recirc. Loop Pressure	G-191167	C - Air or Nitrogen	See Comments	SL-97A SL-97B	1 1	None		Testing not required for vlvs. SL-97A, 97B see Note 4.
X-35A	Tip Air Purge/ Flange Seal	G-191148	C - Air or Nitrogen	C/B	Check	1/2" tube/ 1 1/2" flange	Solenoid	1/2"	Testing not required for tap; See Note 1.
X-35B	Spare	G-191148	B	A	None		None		Non-testable gasket
X-35C X-35D X-35E	Tip Tubes/Flange Seal	G-191148	C - Air or Nitrogen/ B	C/B	Tip Ball Valves	3/8" tube/ 1 1/2" flange	None		Testing not required for tap; see Note 1.
X-36	Spare	G-191170	A - Air or Nitrogen	A Air					
X-37	CRD Insert	G-191170	None	See Comments	3-13-138 3-13-126 3-13-123 3-13-120	1 1 1 1	None		Testing not required for vlvs. 3-13-138, 126, 123, 120; see Relief Request D-3.
X-38	CRD Withdraw	G-191170	None	See Comments	3-13-127 3-13-122 3-13-120	1 1 1	None		Testing not required for vlvs. 3-13-127, 122, 120; see Relief Request D-3.
X-39A X-39B	Drywell Spray	G-191172	C - Air or Nitrogen	See Comments	10-31B 10-31A	12 12	10-26B 10-26A	12 12	Testing not required for vlvs. 10-31B, 31A, 26B, 26A; see Note 3.
X-40A X-40B X-40C X-40D	Drywell Pressure	G-191172 G-191175	A - Air or Nitrogen	A - Air	None		None		See Note 4.
X-40XX (24 Prs)	Jet Pump Delta P	G-191267	C - Air or Nitrogen	See Comments	SL-23-XX	(48) - 1	None		See Note 4.
X-41	Recirc. Sample	G-191167	C - Air or Nitrogen	C - Air	FCV-39	3/4	FCV-40 V2-41	3/4 3/4	Testing not required for vlv. 2-41; see Note 1.
X-42	Standby Liq. Control	G-191167 G-191171 G-191267	C - Air or Nitrogen	See Comments	11-17	1-1/2	11-16 11-36	1-1/2 1	Testing not required for vlv. 11-36A. See Note 1. Testing not required for the system; See note 6 & 2.

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Containment Penetration Number	System or Function	Reference Drawing Number	Appendix J Required Testing	VY Proposed Testing	First Isolation Valve (s)	Size (in)	Second Isolation Valve (s)	Size (in)	Comments
X-43	Spares		A - Air	A - Air	None		None		None
X-44									
X-45									
X-46									
X-47	Drywell air Comp. suction	G-191160 Sh4	C - Air or Nitrogen	C - Air	V-72-38A V-72-151	2 1	V-72-38B	2	Testing not required for vlv. 72-151; see Note 1.
X-48	Spare	G-191148 (D-13)							
X-49A	RCIC Delta P	G-191174	C - Air or Nitrogen	See Comments	SL-55A SL-55B	1 1	None		Testing not required for vlvs. SL-55A, 55B; see Note 4.
X-49B									
X-49C	Srv. Bellows Pressure	G-191167	A - Air	A - Air	None		None		See Note 4.
X-49D									
X-49E									
X-49F									
X-50A	CAD	VY-E-75-002	C - Air or Nitrogen	C - Air	VG-78	3/4	VG-23	3/4	See Note 1 Testing not required for vlv. VG-21, 78, 80.
X-50B					VG-80	3/4			
X-50C					VG-21	3/4			
X-50D					VG-26	3/4			
X-50D	Spare	G-191148	A - Air	A - Air	None		None		None
X-51A	Post Accident Sam- (Loop Sampling Selection Instrument)	G-191167	C - Air or Nitrogen	See Comments	SL-301C	1	None		Testing not required for vlvs. SL-301C, 301G, 301F, 301B; see Note 4.
X-51B					SL-301G	1			
X-51C					SL-301F	1			
X-51D					SL-301B	1			
X-51E	Spare		A - Air	A - Air	None		None		None
X-51F	Jet Pump Delta P	G-191267	C - Air or Nitrogen	See Comments	SL-33	1	None		Testing not required for vlv. SL-33, see Note 4.
X-52A	Post Accident Sam. (Loop Selection Instrument)	G-191167	C - Air or Nitrogen	See Comments	SL-301A	1	None		Testing not required for vlv. SL-301A, 301E, 301H, 301B; see Note 4.
X-52B					SL-301E	1			
X-52C					SL-301H	1			
X-52D					SL-301B	1			

## VERMONT YANKEE - LOCAL LEAK T. T PROGRAM

Containment Penetration Number	System or Function	Reference Drawing number	Appendix J Required Testing	VY Proposed Testing	First Isolation Valve (s)	Size (in)	Second Isolation Valve (s)	Size (in)	Comments
X-52E X-52F	Drywell Pressure	G-191175	A - Air	A - Air	None		None		See Note 4.
X-9A	"A" Feedwater Bellows	G-191157	B - Air or Nitrogen	B - Air	None		None		Testing not required for tap; see Note 1.
X-9B	"B" Feedwater Bellows	G-191157	B - Air or Nitrogen	B - Air	None		None		Testing not required for tap; see Note 1.
X-11	HPC Steam Bellows	G-191167	B - Air or Nitrogen	B - Air	None		None		Testing not required for tap; see Note 1.
X-12	RHR Bellows	G-191172	B - Air or Nitrogen	B - Air	None		None		Testing not required for tap; see Note 1.
X-13A X-13B	LPCI Bellows	G-191167	B - Air or Nitrogen	B - Air	None		None		Testing not required for tap; see Note 1.
X-14	RWCU Suction Bellows	G-191167	B - Air or Nitrogen	B - Air	None		None		Testing not required for tap; see Note 1.
X-16A X-16B	Core Spray Bellows	G-191167	B - Air or Nitrogen	B - Air	None		None		Testing not required for tap; see Note 1.
	Shear Lug Access Covers (A - H)	5920-336	B - Air or Nitrogen	B - Air	None		None		Testing not required for tap; see Note 1.



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Containment Penetration Number	System or Function	Reference Drawing Number	Appendix J Required Testing	VY Proposed Testing	First Isolation Valve (s)	Size (in)	Second Isolation Valve (s)	Size (in)	Comments
X-100A	Drywell Electrical		B - Air or Nitrogen	B - Nitrogen					Testing not required for tap; see Note 1.
X-100B									
X-100C									
X-100D									
X-101A	Drywell Electrical		B - Air or Nitrogen	B - Nitrogen					Testing not required for tap; see Note 1.
X-101C									
X-101D									
X-101B	Spare		A - Air	A - Air					Testing not required for tap; see Note 1.
X-102	Drywell Electrical		B - Air or Nitrogen	B - Nitrogen					Testing not required for tap; see Note 1.
X-103									
X-104A	Drywell Electrical		B - Air or Nitrogen	B - Nitrogen					Testing not required for tap; see Note 1.
X-104B									
X-104C									
X-105A	Drywell Electrical		B - Air or Nitrogen	B - Nitrogen					Testing not required for tap; see Note 1.
X-105B									
X-105C									
X-105D									

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Containment Penetration Number	System or Function	Reference Drawing Number	Appendix J Required Testing	VY Proposed Testing	First Isolation Valve (s)	Size (in)	Second Isolation Valve (s)	Size (in)	Comments
X-200A X-200B	Torus Manway Torus Manway	G-191175	B - Air or Nitrogen	B - Air					Testing not required for tap; see Note 1.
X-201A thru X-201H	Vent - Torus to Drywell	G-191175	A - Air	Air					Part of Primary Containment; see X-5A thru H.
X-202A thru H, J, L	Vacuum Breaker Access Covers - Also X-5	G-191175	B - Air or Nitrogen	B - Air					See X - 5
X-203A thru 203F	Vent Line Vacuum Breaker Connection	G-191175	A - Air	A - Air					Part of Primary Containment; see X-5A thru H.
X-204	No Penetration								
X-205	CAD  (RB to Torus Vent)	VY-E-75-002 G-191175	C - Air or Nitrogen	C - Air	16-19-11A 16-19-11B 16-20-22A 16-19-10 16-20-28 NG-12A/B NG-20	20 20 1 18 1 1 1	16-19-12A/B AC-20A AC-19B 16-19-9  AC-22B 16-20-20 NG-11A/B 16-19-23	20 1 1 18  1 1 1 6	Testing not required for vlv. NG-20, 16-20-28, AC-20A, 19B, 22B; See Note 1.  Valve 16-19-10 tested in the reverse direction; see Note 7.
X-206A thru 206F	Torus Water Level	G-191169 G-191175	A - Air or Nitrogen	See Comments	None		None		See Note 4.
X-207A thru 207H	Vent Line Drains		A - Air	A - Air	None		None		Part of Primary Containment
X-208A thru 208D	SRV Discharge to Torus	G-191167	None	None					Part of Containment System
X-209A	Torus Pressure	G-191175	A - Air or Nitrogen	See Comments	None	1	None		Testing not required for vlv. AC-100. See Note 4.
X-209B X-209C	Torus Water Temperature	G-191175	A	A					External temperature probes-no penetration
X-209D (X50A, B, C)	CAD	VY-E-75-002	A - Air or Nitrogen	A	None		None		See Note 4.

## VERMONT YANKEES - LOCAL LEAK TEST PROGRAM

Containment Penetration Number	System or Function	Reference Drawing Number	Appendix J Required Testing	VY Proposed Testing	First Isolation Valve (s)	Size (in)	Second Isolation Valve (s)	Size (in)	Comments
X-210A	RIK Return	G-191168 C-191169 C-191172 C-191177	C - Air or Nitrogen	See Comments	10-16B 10-34B 14- 5B 14-26B 23-62 20-319C 20-319D	4" 10" 3" 8" 4" 1 1/2" 1 1/2"	20-84C/D 20-85C/D 10-19D 10-19B 10-39B 10-160 23-25	1.5" 1.5" 4" 4" 12" 3/4" 4"	See Note 2.
X-210B	RIK Return	G-191172 C-191168 G-191174 C-191177	C - Air or Nitrogen	See Comments	10-16A 20-310A 20-310B 14-26A 14- 5A 13-29 10-34A	4" 1 1/2" 1 1/2" 8" 3" 2" 10"	10-19A 10-19C 13-27 10-39A 20-85A/B 20-84A/B	4" 4" 2" 12" 1.5" 1.5"	See Note 2.

VERMONT YANKEE - LOCAL LEAK TEST PROGRAM

Containment Penetration Number	System or Function	Reference Drawing Number	Appendix J Required Testing	VY Proposed Testing	First Isolation Valve (s)	Size (in)	Second Isolation Valve (s)	Size (in)	Comments
X-211A	Torus Spray	G-191172	C - Air or Nitrogen	See Comments	10-38B	4	10-39B	12	Testing not required for vlvs., 10-38A,B,39A,B; see Note 3.
X-211B					10-38A	4	10-39A	12	
X-212	RCIC Turbine Exhaust	G-191174	C - Air or Nitrogen	See Comments	SSC-9 13-817	8 1	13-52A 13-50 13-818	8 8 1	Testing not req. for vlvs, 13-817, 52A,50,818,SSC-9 see Note 2.
X-213A	Torus Torus Drain / Drain Valves Flanges	G-191175	C - Air or Nitrogen	See Comments	20-400A	1	20-402A/401A	1	Testing not req. for vlvs 20-400A, B,20-402A/401A, 20-401B/402B & flanges; see Note 2. Testing not required for taps; see Note 1.
X-213B					20-400B	1	20-401B/402B	1	
X-214	Torus Electrical		B - Air or Nitrogen	B - Air					Testing not required for tap; See Note 1.
X-215	Torus Electrical	G-191175	A - Air or Nitrogen	A - Air					Not locally testable.
X-216	CAD	VY-E-75-002	C - Air or Nitrogen	C - Air	76-A 78-A	1 1	76-B	1	Testing not required for vlv. 78A; See Note 1.
X-217	Torus Pressure	G-191175	A - Air or Nitrogen	A - Air	None				Testing not required. See Note 4.
X-218	CAD & Atmosphere Control	G-191175 VY-E-75-002	C - Air or Nitrogen	C - Air	16-19-6B 16-19-7B VG-12B VG 9B	3 18 1 1	SB-6 SB-7 VG-17B VG-22B AC-21A	14 14 1 1 1	Valves SB-6&7 are tested in the reverse direction. See Note 7. Testing not required for vlvs. AC-21A,12B,17B. See Note 1.
X-219	Spare		A - Air	A - Air					None
X-220 (see: X50,A,B,C)	CAD	VY-E-75-002	C - Air or Nitrogen	C - Air	VG-21 VG-26	3/4 3/4	VG-23	3/4	Testing not required for vlv. VG-21; see Note 1.
X-221	HPCI Turbine Exhaust	G-191169	C - Air or Nitrogen	See Comments	SSC-12 23-842	20 1	23-65 23-843 23-63A	20 1 1	See Note 2.
X-222	HPCI Drain Pot	G-191169	C - Air or Nitrogen	See Comments	SSC-13	2	23-56 23-63B AO-106	2 1 1/8"	See Note 2.
X-223	RCIC Drain Pot	G-191174	C - Air or Nitrogen	See Comments	SSC-10	2	13-38 52B	2 3/4	See Note 2.
X-224A	RIIR Suction	G-191172	C - Air or Nitrogen	See Comments	10-13-B,D 10-206A	24			See Note 2.
X-224B					10-13-A,C 10-206B	24			
X-225	HPCI Suction	G-191169	C - Air or Nitrogen	See Comments	23-58 23-153A	16 3/4"	23-57 23-59A	16 1	See Note 2.





RELIEF REQUEST BASIS

Number: D-1

System: Feedwater

Valve: 2-28A, 2-28B

Penetration No.: X-9A, X-9B

Size: 16"

Function: Check Valve for Reverse Flow Isolation

Test Requirement: Appendix J, Type C

Basis for Relief: Type C testing of the inboard feedwater check valves is not required based on the following:

1. The closing of the outboard check valves is very reliable. The outboard valves will fail to close only if they are physically blocked by some foreign material or as a result of serious mechanical binding.
2. Even if the outboard valve fails to close, the inboard valve will remain water covered until all remaining feedwater has leaked through, providing a period of time to shut the motor-operated valves before there is any escape of containment atmosphere.
3. Even if the outboard valve fails to close, and the motor-operated valves are left open, system operating pressure greater than Pa can be maintained which will prevent leakage through the inboard valve out into the system.
4. VYNPC found that significant effort was required in replacing the outboard feedwater check valves. Both VYNPC and NRC agree that anticipated radiation exposures associated with replacing the inboard check valves far exceed the benefits of replacing these valves (ie ALARA) based on the outboard feedwater check valve experience.

Alternate Testing: None

RELIEF REQUEST BASIS

Number: D-2

System: MSIV's

Valve: 2-80A, 80B, 80C, 80D, 86A, 86B, 86C, 86D

Penetration No.: 7A, 7B, 7C, 7D

Size: 18"

Function: Main Steam Line Isolation

Testing Requirements: Appendix J, Type C

Basis for Relief: The design of the main steam isolation valves is such that testing between the inboard and outboard valves at 44 psi would lift the disc of the inboard valve.

Alternate Testing: Valves will be leak tested at 24 psi with an acceptance criteria of 11.5 scfh.

RELIEF REQUEST BASIS

Number: D-3

System: CRD

Valve: 3-13-120, 122, 123, 126, 127, 138

Penetration No.: X-37, X-38

Size: 1"

Function: Insert and Withdraw Control Rods

Testing Requirements: Appendix J, Type C

Basis for Relief: The CRD System is designed to reactor coolant pressure boundary criteria and continuously operates at reactor coolant pressure, which is orders of magnitude higher than post-accident containment pressure. Any system leakage would be identified during plant operation and subsequently repaired so that it can be relied upon to contain post-accident pressure should the need arise.

Alternate Testing: None