



PERRY NUCLEAR POWER PLANT
10 CENTER ROAD
PERRY, OHIO 44081
(216) 259-3737

Mail Address:
P.O. BOX 97
PERRY, OHIO 44081

Michael D. Lyster
Vice President - Nuclear

October 10, 1990
PY-CEI/NRR-1236 L

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, D. C. 20555

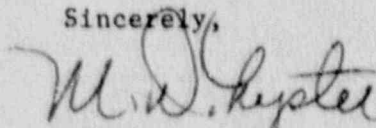
Perry Nuclear Power Plant
Docket No. 50-440
CEI Response to NRC RAI on
Inservice Inspection
Relief Requests PT-001 & PT-003

Gentlemen:

By telephone conversation dated October 2, 1990, the NRC staff and its contractor EG&G requested additional information regarding Perry Nuclear Power Plant (PNPP) Inservice Inspection Relief Requests PT-001 and PT-003 in order to complete a review of eleven relief requests submitted by letter PY-CEI/NRR-1078L dated November 17, 1989. Relief Requests PT-001 and PT-003 have been revised to provide the information requested and are included in Attachment 1.

If you have any questions, please feel free to call.

Sincerely,



Michael D. Lyster

MDL:CJF:njc

Attachment

cc: NRR Project Manager
Sr. Resident Inspector
USNRC Region III
EG&G Idaho, Inc.

9010240360 901010
PDR AD0CK 05000440
Q PDC

Operating Units
Cleveland Electric Illuminating
Toledo Edison

A047
11

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I. Identification of Components

Class 2 systems/components attached to the Reactor Coolant Pressure Boundary (Class 1) which are not provided with either pressure or test isolation (i.e., instrumentation, drain, vent, and test piping). A list of valve numbers identifies the affected components (i.e., valves, piping systems and instruments).

II. ASME B&PV Section XI Requirements

IWA-5213(c) Test Condition Holding Time, "System Inservice Tests - no holding time required, provided the system has been in operation for at least 4 hours."

IWC-5210(a)(2) Test, "A system pressure test conducted during a system inservice test [IWA-5211(c)] for those systems required to operate during normal plant operation."

III. Relief Request

Relief is requested from using the requirement of - operating the system for four hours before commencing the VT-2 examinations - for Class 2 components and instruments non-isolable from the Reactor Coolant Pressure Boundary (Class 1). These components shall be examined (VT-2 Visual Examination) during the Class 1 Reactor Coolant Pressure Boundary System Leakage Test at the frequency intervals specified within Subsection IWC. Thus, this relief request proposes substituting IWA-5213(a) for IWA-5213(c) and IWB-5210(a)(1) for IWC-5210(a)(2).

IV. Basis for Relief

Numerous components attached to the reactor coolant pressure boundary are covered by the provisions of 10CFR50.55a(c) Reactor Coolant Pressure Boundary. The following excerpt from 10CFR50a(c) is provided:

"(2) Components which are connected to the reactor coolant system and are part of the reactor coolant pressure boundary as defined in Section 50.2 need not meet the requirements of paragraph (c)(1) of this section, Provided:

(i) In the event of postulated failure of the component during normal reactor operation, the reactor can be shut down and cooled down in an orderly manner, assuming makeup is provided by the reactor coolant makeup system; or

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(ii) The component is or can be isolated from the reactor coolant system by two valves in series (both closed, both open, or one closed and the other open). Each open valve must be capable of automatic actuation and, assuming the other valve is open, its closure time must be such that, in the event of postulated failure of the component during normal reactor operation, each valve remains operable and the reactor can be shut down and cooled down in an orderly manner, assuming makeup is provided by the reactor coolant makeup system only."

The piping systems and their associated components connected to the reactor coolant pressure boundary and less than 1 inch in diameter were constructed to the requirements of ASME Code, Section III, Subsection NC, and identified as Safety Class 2 for inservice inspection. The associated components and component parts are identified by valve number and listed below. Relief is requested to allow the selected segments of the Class 2 instrument, test, vent and drain lines listed below to be inspected (VT-2 Visual Examination) during the Class 1 system leakage test because the Class 2 instrument, test, vent and drain lines are not isolable from the Class 1 system. The primary difference between the Class 1 system leakage test, IWA-5213(b), and the Class 2 system inservice test, IWA-5213(c), is that the Class 2 system inservice test requires the Class 2 system to have been in operation for at least 4 hours prior to performance of the VT-2 examination. The Class 1 system leakage test requires no holding time after attaining test pressure and temperature conditions. Presumably, the requirement that the Class 2 system be in operation for at least 4 hours is to ensure that leakage is detected through system insulation. However, relief from the 4 hour operation time requirement should not have a significant adverse effect on detecting leakage. The majority of instrument, test, vent and drain lines for which relief is requested are themselves uninsulated systems. The Class 2 instrument lines are uninsulated by design to prevent water from flashing to steam resulting in loss of proper indication. And although a small segment of the nonisolable Class 2 test, vent and drain lines are encompassed within the Class 1 system insulation, the Class 2 isolation valves are, by design, located as close to the Class 1 system as possible (within approximately 1 foot) which serves to minimize the amount of Class 2 insulated line to be inspected per this relief request. In addition, all the nonisolable segments of the Class 2 lines shall be pressurized during the Class 1 Reactor Coolant Pressure Boundary System Leakage Test and a VT-2 Visual Examination will be performed. The Class 1 system leakage test will satisfy the Class 2 requirements for test frequency and pressure. Although the nonisolable Class 2 line segments will not have been at normal operating pressure for 4 hours prior to commencing the examinations, the time required to bring the reactor coolant system up to the required test pressure of 1025 psig, a minimum of 6 hours, will ensure the detection of leakage through any insulated Class 2 piping.

In addition, allowing for the performance of the nonisolable Class 2 line segments during the Class 1 system leakage test would minimize overall personnel radiation exposure consistent with the Licensee's ALARA policy by reducing the amount of time required to remain in the drywell to perform a second and unnecessary system walkdown. During the Class 1 system leakage test, the entire Class 1 and nonisolable Class 2 piping segments will be walked down and examined in a comprehensive systematic manner. A separate Class 2 walkdown and examination would entail hunting for isolated segments of Class 2 piping, increasing the risk of inadvertently missing inspectable items and increasing the amount of personnel exposure. The requested relief would also minimize the amount of time required to maintain the reactor coolant system at the test pressure of 1025 psig by mechanical means, and thereby reduce equipment degradation and potential safety concerns.

Although, as described above, there are differences in test conditions between ASME Section XI IWA-5213(a) and IWA-5213(c), both test methods are designed to ensure leak tightness. Therefore, the substitution of IWA-5213(a) for IWA-5213(c) and the substitution of IWB-5210(a)(1) for IWC-5210(a)(2) for the nonisolable Class 2 line segments identified below satisfies the intent of the Code.

V. Alternate Examination

N/A, VT-2 Visual Examination is performed.

<u>Valve No.</u>	<u>Description</u>	<u>P&ID No.</u>
1B33-F068A/B	Recirc Pump A/B Discharge Valve Vent	D-302-601, 602
1B33-F070A/B	Recirc Pump A/B Discharge Valve Drain	D-302-601, 602
1B33-F065A/B	Recirc Loop A/B FCV Drain	D-302-601, 602
1B33-F647A/B	Recirc Loop A/B FCV Vent	D-302-601, 602
1B33-F686A/B	Recirc Loop A/B FCV Drain	D-302-601, 602

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<u>Valve No.</u>	<u>Description</u>	<u>P&ID No.</u>
1B33-F025A/B	Recirc Pump A/B Suction Valve Vent	D-302-601, 602
1B33-F027A/B	Recirc Pump A/B Suction Valve Drain	D-302-601, 602
1B33-F503A/B -F504A/B	Instrument Isolation Valves for dPT-N015A/B, Respectively	D-302-602
1B33-F505A -F506A	Instrument Isolation Valves for FT-N014C/D	D-302-602
1B33-F505B -F506B	Instrument Isolation Valves for FT-N011B and FT-N024C/D	D-302-602
1B33-F507A -F508A	Instrument Isolation Valves for FT-N011A and FT-N014A/B	D-302-602
1B33-F507B -F508B	Instrument Isolation Valves for FT-N024A/B	D-302-602
1B33-F512A/B	Recirc Pump A/B Diff Pressure Instrument Vent	D-302-602
1B33-F513A/B	Recirc Pump A/B Diff Pressure Instrument Vent	D-302-602
1B33-F577	Recirc Loop B Flow Instrument Vent	D-302-602
1B33-F578	Recirc Loop B Flow Instrument Vent	D-302-602
1B33-F579	Recirc Loop A Flow Instrument Vent	D-302-602
1B33-F580	Recirc Loop A Flow Instrument Vent	D-302-602
1B33-F581	Recirc Loop B Flow Instrument Vent	D-302-602
1B33-F582	Recirc Loop B Flow Instrument Vent	D-302-602
1B33-F583	Recirc Loop A Flow Instrument Vent	D-302-602
1B33-F584	Recirc Loop A Flow Instrument Vent	D-302-602
1B33-F059	Recirc System Sample Isolation	D-302-602
1B33-F019	Reactor Water Sample Isolation	D-302-602
1B33-F110	Rx Recirc Sample Line Drain	D-302-602
1G33-F507	Instrument Isolation Valve for FT-N037	D-302-671
1G33-F523	RWCU Bottom Head Flow Instrument Vent	D-302-671
1E32-F506A -F544A	Instrument Isolation Valves for PT-N051A, PT-N061A	D-302-341
1E32-F506E -F544E	Instrument Isolation Valves for PT-N051E, PT-N061E	D-302-341
1E32-F506J -F544J	Instrument Isolation Valve for PT-N051J, PT-N061J	D-302-341
1E32-F506N -F544N	Instrument Isolation Valve for PT-N051N PT-N061N	D-302-341
1B21-F596	1B21-F016 Test Connection Root Valve	D-302-121
1B21-F017	MST Drain and MSIV Bypass Line Drain	D-302-121
1N27-F551A/B/C	Feedwater Header A Branch Test Isolation	D-302-082
1N27-F551D/E/F	Feedwater Header B Branch Test Isolation	D-302-082
1N27-F557A/B	Feedwater Header A/B First Test Connection	D-302-082
1G33-F508A/B	Instrument Isolation Valves for PT-N076A, PT-N076B	D-302-671, 962

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<u>Valve No.</u>	<u>Description</u>	<u>P&ID No.</u>
1G33-F108	Pen 131 INBD Test Conn First Isolation Valve	D-302-671
1E31-F540B	RWCU Diff Flow LD Low Side Test Connection	D-302-962
1E31-F541B	RWCU Diff Flow LD High Side Test Connection	D-302-962
1E51-F528A/B/C/D	Instrument Isolation Valves for PT-NC94A/B, PT-NO85A/B	D-302-632, 961
1E31-F542A/B	RCIC/RHR ST Supply LD Low Stby Test Conn	D-302-961
1E31-F543A/B	RCIC/RHR ST Supply LD High Stby Test Conn	D-302-961
1E31-N084B-G	Cross-Tie Low Side PT-N084A/B	D-302-961
1E31-N084B-R	Cross-Tie High Side PT-N084A/B	D-302-961
1E31-F519	Instrument Isolation Valve For PT-N080A	D-302-705, 962
1E31-F545A	RHR A to LPCS LD High Side Test Connection	D-302-962
1E31-F523	Instrument Isolation Valve for PT-N081	D-302-701, 962
1E31-F547	HPCS to SLC Ref Diff Pressure Test Connection	D-302-962
1E31-F520	Instrument Isolation Valve for PT-N080A	D-302-642, 962
1E31-F544A	RHR A to LPCS LD Low Side Test Connection	D-302-962
1E31-F521	Instru Isolation Valve for PT-N080B	D-302-642, 962
1E31-F522	Instrument Isolation Valve for PT-N080B	D-302-642, 962
1E21-F502	LPCS to Rx Line Test Connection	D-302-705
1E22-F501	HPCS to Rx Line Test connection	D-302-701
1C41-F501	SLC Discharge Line Inboard Drywell Drain Valve	D-302-691
1E12-F508A	LPCI From RHR A Inbd First Test Connection	D-302-642
1E12-F508B	LPCI From RHR B Inbd First Test Connection	D-302-642
1E12-F508C	LPCI From RHR C Inbd First Test Connection	D-302-642
1E12-F501	Shutdown Cooling Suction Hdr Inbd First Conn	D-302-642
1E51-F072	RHR & RCIC Steam Supply Line Test Connection	D-302-632
1B33-F514	Recirc Jet Pump 15 Flow Instrument Vent	D-302-604
1B33-F515	Recirc Jet Pump 12 Flow Instrument Vent	D-302-604
1B33-F516	Recirc Jet Pump 18 Flow Instrument Vent	D-302-604
1B33-F517	Recirc Jet Pump 19 Flow Instrument Vent	D-302-604
1B33-F518	Recirc Jet Pump 15 Flow Instrument Vent	D-302-604
1B33-F519	Recirc Jet Pump 16 Flow Instrument Vent	D-302-604
1B33-F520	Recirc Jet Pump 17 Flow Instrument Vent	D-302-604
1B33-F521	Recirc Jet Pump 11 Flow Instrument Vent	D-302-604
1B33-F522	Recirc Jet Pump 13 Flow Instrument Vent	D-302-604
1B33-F523	Recirc Jet Pump 20 Flow Instrument Vent	D-302-604
1B33-F524	Recirc Jet Pump 20 Flow Instrument Vent	D-302-604
1B33-F525	Recirc Jet Pump 14 Flow Instrument Vent	D-302-604
1B33-F526	Recirc Jet Pump 15 Flow Instrument Root FT-N038B, LT-N044D	D-302-604
1B33-F527	Recirc Jet Pump 12 Flow Instrument Root FT-N037F	D-302-604

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<u>Valve No.</u>	<u>Description</u>	<u>P&ID No.</u>
1B33-F528	Recirc Jet Pump 18 Flow Instrument Root FT-N037M	D-302-604
1B33-F529	Recirc Jet Pump 19 Flow Instrument Root FT-N037S	D-302-604
1B33-F530	Recirc Jet Pump 15 Flow Instrument Root FT-N037U, FT-N038B	D-302-604
1B33-F531	Recirc Jet Pump 16 Flow Inst Root FT-N037D	D-302-604
1B33-F532	Recirc Jet Pump 17 Flow Inst Root FT-N037H	D-302-604
1B33-F533	Recirc Jet Pump 11 Flow Inst Root FT-N037B	D-302-604
1B33-F534	Recirc Jet Pump 13 Flow Inst Root FT-N037K	D-302-604
1B33-F535	Recirc Jet Pump 20 Flow Inst Root FT-N038D	D-302-604
1B33-F536	Recirc Jet Pump 20 Flow Inst Root FT-N037W, FT-N038D	D-302-604
1B33-F537	Recirc Jet Pump 14 Flow Inst Root FT-N037P	D-302-604
1B33-F646	Jet Pump Post Accident Sample Isolation	D-302-604
1B33-F001	Reactor Recirc B Sample Isolation Valve	D-302-431
1B33-F538	Recirc Jet Pump 7 Flow Instrument Vent	D-302-603
1B33-F539	Recirc Jet Pump 9 Flow Instrument Vent	D-302-603
1B33-F540	Recirc Jet Pump 10 Flow Instrument Vent	D-302-603
1B33-F541	Recirc Jet Pump 1 Flow Instrument Vent	D-302-603
1B33-F542	Recirc Jet Pump 2 Flow Instrument Vent	D-302-603
1B33-F543	Recirc Jet Pump 5 Flow Instrument Vent	D-302-603
1B33-F544	Recirc Jet Pump 3 Flow Instrument Vent	D-302-603
1B33-F545	Recirc Jet Pump 10 Flow Instrument Vent	D-302-603
1B33-F546	Recirc Jet Pump 5 Flow Instrument Vent	D-302-603
1B33-F547	Recirc Jet Pump 4 Flow Instrument Vent	D-302-603
1B33-F548	Recirc Jet Pump 6 Flow Instrument Vent	D-302-603
1B33-F549	Recirc Jet Pump 8 Flow Instrument Vent	D-302-603
1B33-F550	Recirc Jet Pump 7 Flow Instrument Root FT-N037G	D-302-603
1B33-F551	Recirc Jet Pump 9 Flow Instrument Root FT-N037R	D-302-603
1B33-F552	Recirc Jet Pump 10 Flow Instrument Root FT-N037V, FT-N038C	D-302-603
1B33-F553	Recirc Jet Pump 1 Flow Instrument Root FT-N037A	D-302-603
1B33-F554	Recirc Jet Pump 2 Flow Instrument Root FT-N037E	D-302-603
1B33-F555	Recirc Jet Pump 5 Flow Instrument Root FT-N038A, LT-N044C	D-302-603
1B33-F556	Recirc Jet Pump 3 Flow Instrument Root FT-N037J	D-302-603

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<u>Valve No.</u>	<u>Description</u>	<u>P&ID No.</u>
1B33-F557	Recirc Jet Pump 10 Flow Instrument Root FT-N038C	D-302-603
1B33-F558	Recirc Jet Pump 5 Flow Instrument Root FT-N037T, FT-N038A	D-302-603
1B33-F559	Recirc Jet Pump 4 Flow Instrument Root FT-N037N	D-302-603
1B33-F560	Recirc Jet Pump 6 Flow Instrument Root FT-N037C	D-302-603
1B33-F561	Recirc Jet Pump 8 Flow Instrument Root FT-N037L	D-302-603
1B33-F570	Jet Pump Flow Instrument Vent	D-302-603
1B33-F571	Jet Pump Flow Instrument Isolation FT-N037G, FT-N037R, FT-N037V, FT-N037A, FT-N037E, FT-N037J, FT-N037T, FT-N037N, FT-N037C, FT-N037L	D-302-603
1B33-F645	Jet Pump Post Accident Sample Isolation	D-302-603
1P87-F007	Reactor Recirc A Sample Isolation Valve	D-302-431
1E21-F503	Instrument Isolation Valves for PT-N003A, -F504	D-302-961
1E31-F505	Instrument Isolation Valves for PT-N086C, -F506	D-302-961
1E31-F507	Instrument Isolation Valves for PT-N003B, -F508	D-302-961
1E31-F509	Instrument Isolation Valves for PT-N087C, -F510	D-302-961
1E31-F570	Main Steam Line A Flow Instrument Test Conn	D-302-961
1E31-F571	Main Steam Line A Flow Instrument Test Conn	D-302-961
1E31-F572	Main Steam Line A Flow Instrument Test Conn	D-302-961
1E31-F573	Main Steam Line A Flow Instrument Test Conn	D-302-961
1E31-F574	Main Steam Line B Flow Instrument Test Conn	D-302-961
1E31-F575	Main Steam Line B Flow Instrument Test Conn	D-302-961
1E31-F576	Main Steam Line B Flow Instrument Test Conn	D-302-961
1E31-F577	Main Steam Line B Flow Instrument Test Conn	D-302-961
1E31-F511	Instrument Isolation Valves for PT-N088A, -F512	D-302-961
1E31-F513	Instrument Isolation Valves for PT-N003C, -F514	D-302-961
1E31-F515	Instrument Isolation Valves for PT-N089A, -F516	D-302-961
1E31-F517	Instrument Isolation Valves for PT-N003D, -F518	D-302-961
1E31-F578	Main Steam Line C Flow Instrument Test Conn	D-302-961
1E31-F579	Main Steam Line C Flow Instrument Test Conn	D-302-961

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<u>Valve No.</u>	<u>Description</u>	<u>P&ID No.</u>
1E31-F580	Main Steam Line C Flow Instrument Test Conn	D-302-961
1E31-F581	Main Steam Line C Flow Instrument Test Conn	D-302-961
1E31-F582	Main Steam Line D Flow Instrument Test Conn	D-302-961
1E31-F583	Main Steam Line D Flow Instrument Test Conn	D-302-961
1E31-F584	Main Steam Line D Flow Instrument Test Conn	D-302-961
1E31-F585	Main Steam Line D Flow Instrument Test Conn	D-302-961
1B21-F512	Instrument Isolation Valve for LT-N027, LT-N017	D-302-606
1B21-F514	Instrument Isolation Valve for LT-N095B, PT-N403B, PI-R004B, PT-N058, PT-N403F, PT-N068B, PT-N008B, PT-N068F, PT-N040, PT-N078B, PT-N062B, PT-N004B, LT-N080B, LT-N490, LT-N091B, LT-N402B, LT-N091F, dPI-R009B, LT-N081B	D-302-606
1B21-F510	Instrument Isolation Valve for PT-N078D, LT-N080D, LT-N073L, LT-N073R, LT-N081D, LT-N402F, LT-N044D	D-302-606
1B21-F542	RPV Level Instrument Line Drain	D-302-606
1B21-F511	Instrument Isolation Valve for LT-N080D, dPI-R005	D-302-606
1B21-F544	RPV Level Instrument Line Vent	D-302-606
1B21-F546	RPV Level Instrument Line Drain	D-302-606
1B21-F515	Instrument Isolation Valve for LT-N080B, LT-N004, LT-N017, LT-N027, LT-N095B	D-302-606
1B21-F551	RPV Level Instrument Line Vent	D-302-606
1B21-F540	RPV Level Instrument Line Drain	D-302-606
1B21-F545	RPV Level Instrument Line Vent	D-302-606
1B21-F509	Instrument Isolation Valve for LT-N073L, LT-N073R, LT-N081D, LT-N402F	D-302-606
1B21-F548	RPV Level Instrument Line Drain	D-302-606
1B21-F549	RPV Level Instrument Line Vent	D-302-606
1B21-F513	Instrument Isolation Valve for LT-N081B, LT-N091F, dPI-R009B, LT-N402B, LT-N091B	D-302-606
1B21-F583	Instrument Isolation Valve for PT-N081, dPT-N032	D-302-606, 962
1B21-F582	Jet Pump Instrument Line Vent	D-302-606
1B21-F585	Instrument Isolation Valve For dPT-N011, dPT-N008	D-302-606, 872
1B21-F523	Instrument Isolation Valve for Flow Instruments P009, dPI-R005, LT-N490, dPT-N032, FT-N037, FT-N032, dPI-R005	D-302-606, 604, 671
1B21-F584	Jet Pump Instrument Line Vent	D-302-606

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<u>Valve No.</u>	<u>Description</u>	<u>P&ID No.</u>
1B21-F553	Instrument Isolation Valve for LT-N095A, PT-N403A, PI-R004A, PT-N403E, PT-N005, PT-N068A, PT-N050, PT-N068E, PT-N006, PT-N008A, PT-N078A, PT-N062A, LT-N004A, LT-N080A, LT-N010, LT-N091A, LT-N402A, dPI-R009A, LT-N091E, LT-N081A	D-302-606
1B21-F505	Instrument Isolation Valves for LT-N080C, PT-N078C, LT-N004C, LT-N073G, LT-N402E, LT-N073C, LT-N081C, LT-N044C	D-302-606
1B21-F536	RPV Level Instrument Line Drain	D-302-606
1B21-F506	Instrument Isolation Valve for LT-N080C, LT-N004C	D-302-606
1B21-F539	RPV Level Instrument Line Vent	D-302-606
1B21-F528	RPV Level Instrument Line Drain	D-302-606
1B21-F552	Instrument Isolation Valve for LT-N080A, LT-N004A, LT-N095A	D-302-606
1B21-F533	RPV Level Instrument Line Vent	D-302-606
1B21-F535	RPV Level Instrument Line Drain	D-302-606
1B21-F504	Instrument Isolation Valves for LT-N081C, LT-N073C, LT-N402E, LT-N073G	D-302-606
1B21-F534	RPV Level Instrument Line Vent	D-302-606
1B21-F529	RPV Level Instrument Line Drain	D-302-606
1B21-F555	Instrument Isolation Valve for LT-N081A, LT-N091E, dPI-R009A, LT-N402A, LT-N091A, LT-N010	D-302-606
1B21-F531	RPV Level Instrument Line Vent	D-302-606

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I. Identification of Components

Class 2 and 3 components which undergo routine quantitative pressurization tests in which no detectable leakage would be identified as the minimum equipment accuracy (i.e., normally inclusive of valves, piping systems and penetrations). A listing of test pressurization boundaries are identified by penetration number.

II. ASME B&PV Section XI Requirements

IWA-5211 Test Description, "The pressure retaining components within each system boundary shall be subject to system pressure tests under which conditions visual examination VT-2 is performed in accordance with IWA-5240 to detect leakages. The required system pressure tests and examinations, as referenced in Table IWA-5210-1, may be conducted in conjunction with one or more of the following system tests or operations: "(b) a system functional test, and (e) a system pneumatic test."

IWA-2500(a) Examination and Pressure Test Requirements, "Components shall be examined and pressure tested as specified in Table IWC-2500-1. The method of examination for the components and parts of the pressure retaining boundaries shall comply with those tabulated in Table IWC-2500-1, except where alternate examination methods are used that meet the requirements of IWA-2240."

IWC-5210(a) Test, "The pressure retaining components within each system boundary shall be subjected to the following system pressure tests and visually examined by the method specified in Table IWC-2500-1, Examination Category C-4: "(1) a system pressure test conducted during a system functional test."

IWC-5210(b) Test, "The system pressure tests and visual examinations shall be conducted in accordance with IWA-5000 and this Article. The contained fluid in the system shall serve as the pressurizing medium, except that in steam system either water or air may be used. Where air is used, the test procedure shall permit the detection and location of through-wall leakages in components of the system tested."

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IWD-2500(a) Examination and Pressure Test Requirements, "Components shall be examined and pressure tested as specified in Table IWD-2500-1. The method of examination for the components and parts of the pressure retaining boundaries shall comply with those tabulated in Table IWD-2500-1 except where alternate examination methods are used that meet the requirements of IWA-2240."

IWD-5210(a) Test, "The pressure retaining components within the boundary of each system specified in the Examination Categories of Table IWD-2500-1 shall be pressure tested and examined in accordance with Table IWD-2500-1 during the following tests:" "(2) system functional test, IWA-5211(b)."

III. Relief Requested

Relief is requested from performance of VT-2 Visual Examination in conjunction with a pneumatic system pressure test where the test pressurization boundary leakage is measured (makeup or pressure decay) and quantified as within the test equipment accuracy (no detectable leakage). The test pressurization boundaries are identified by penetration numbers. The boundary includes components and appurtenances which become pressurized during testing.

IV. Basis For Relief

Numerous Class 2 and 3 components undergo leak testing using the pressure make-up or pressure decay techniques. These tests require the measurement and quantification of the test pressurization boundary leakage. Performance of a VT-2 Examination would require walkdowns and may involve scaffolding erection in radiation areas. Pressure testing using air could additionally require insulation removal (and re-installation) for detecting leakage by VT-2 Visual Examination. The use of an alternative technique of no detectable leakage meets the ALARA policy at PNPP. The majority of pressure tests are to satisfy plant Technical Specifications for verifying plant component operability and structural integrity. The test equipment has an accuracy and range unique to verify major safety concerns. The quantification as no detectable leakage is documented as minimum equipment accuracy (i.e., 10.0 sccm). The performance of a VT-2 Visual Examination during testing would not serve a useful purpose since the techniques used to detect pneumatic leaks (film application; bubble solution) would not locate a leak <10 sccm in actual field testing conditions.

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V. Alternate Examination

Quantifying leakage rates as no detectable leakage utilizing test instruments (calibrated equipment), rather than a VT-2 walkdown, is used as an alternative technique.

<u>Pen. No.</u>	<u>Designation</u>	<u>F&ID No.</u>
**P107	RHR Relief Line to Suppression Pool	D-302-641, 642, 705, 971
*P108	Condensate Supply	D-302-102
**P109	Containment Leak Test	D-302-811
*P111	Condensate Return	D-302-102
**P114	Containment Vacuum Relief	D-912-606
**P115	RCIC Turbine Exhaust Vacuum Relief	D-302-631, 641, 642, 643
**P117	Nitrogen Supply to CRD's	D-302-950
**P118	RHR Heat Exchanger Vent	D-302-641, 642
**P119	Containment Leak Rate	D-302-811
**P120	Containment Leak Rate	D-302-811
**P201	Drywell Atmosphere Radiation Monitor Line	D-806-004
*P203	Fuel Pool Cooling Supply	D-302-651
**P208	Containment Vacuum Relief	D-912-606
**P210	Carbon Dioxide To Fire Protection System	D-914-005
*P301	Fuel Pool Cooling Return	D-302-651
**P302	Backup Hydrogen Purge System	D-302-831
**P305	Lower Personnel Airlock	D-302-761
*P309	Demineralized Water	D-302-713
**P312	Upper Personnel Airlock	D-302-761
**P317	Containment Atmosphere Radiation Monitor Line	D-806-007
**P317	Containment Leak Rate	D-302-811
**P318	Post LOCA Hydrogen Analyzer Line	D-302-431, 832
**P319	Containment Leak Rate	D-302-811
*P406	Fire Protection Water	D-914-003
*P413	Post Accident Sampling	D-302-431
*P417	Equipment Drain Sump to Radwaste	D-302-739
*P418	Floor Drain Sump to Radwaste	D-302-740
*P420	Backwash Tank to Radwaste	D-302-737
*P424	RWCU to Main Condenser and Radwaste	D-302-672
**P425	Post LOCA Hydrogen Analyzer Line	D-302-832
**P428	Containment Vacuum Relief	D-912-606
*P429	RHR Relief Line to Suppression Pool	D-302-431, 642, 643
**P431	RHR Heat Exchanger Vent	D-302-642, 643
**P436	Containment Vacuum Relief	D-912-606
**V313	Purge Supply	D-912-604
**V314	Purge Exhaust	D-912-604

* Denotes fluid system requiring draining prior to pneumatic test
** Denotes an air system penetration