

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 7002020176 DOC DATE: 79/01/25 NOTARIZED: NO DOCKET #
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 RECIP. NAME: ZIEMANN, D.L. RECIPIENT AFFILIATION: Operating Rectors Branch 2

SUBJECT: Responds to 781221 ltr requesting verification of data submitted by util. Forwards comments & addl info re isolation of low pressure sys from reactor coolant sys.

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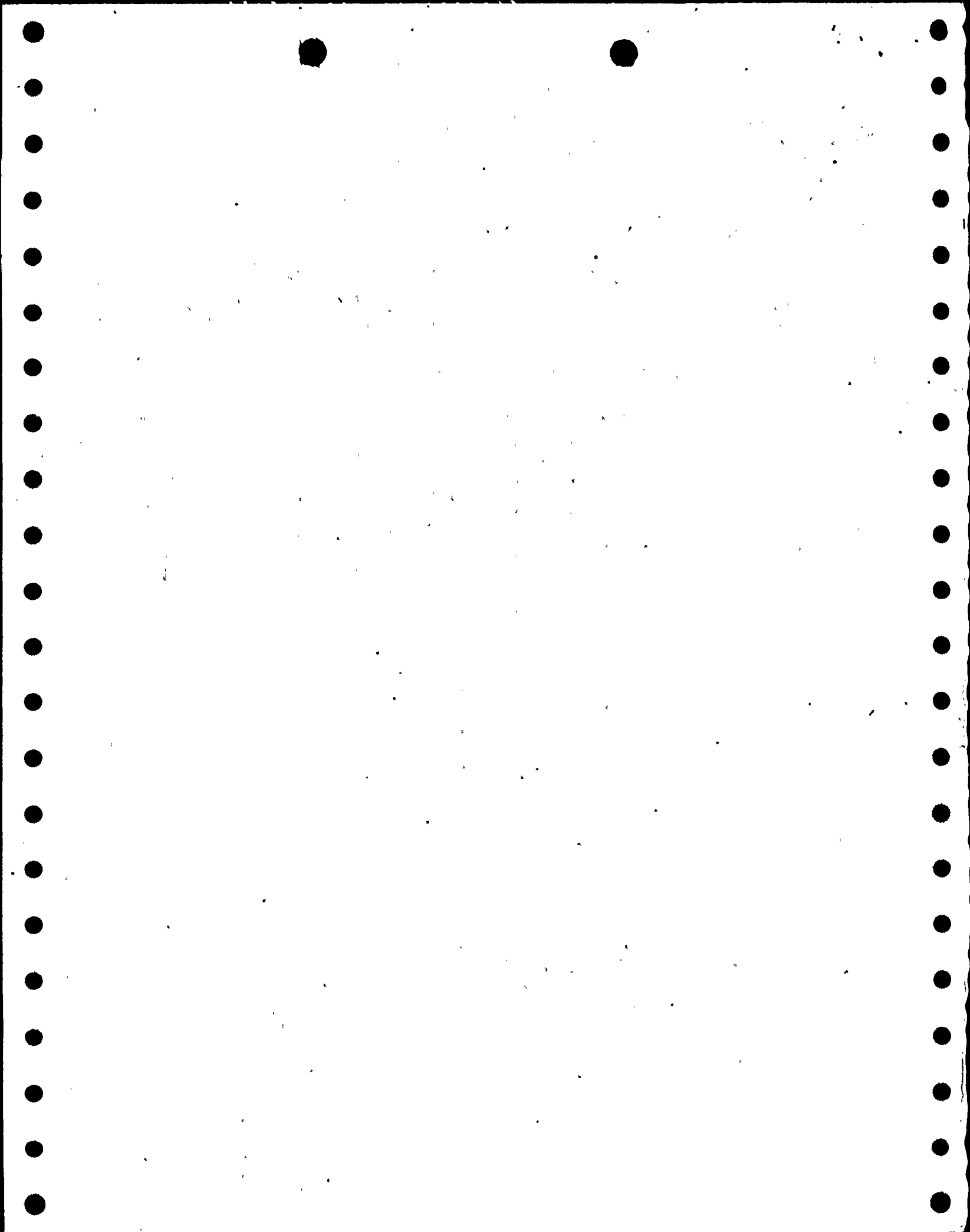
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LEON D. WHITE, JR.
VICE PRESIDENT

January 25, 1979

Director of Nuclear Reactor Regulation
ATTN: Mr. Dennis L. Ziemann, Chief
Operating Reactors Branch #2
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Dear Mr. Ziemann:

Subject: VERIFICATION OF PLANT INFORMATION ON SEP TOPIC V-11.A,
"REQUIREMENTS FOR ISOLATION OF HIGH AND LOW PRESSURE
SYSTEMS"

Your letter of December 21, 1978 requested that we verify the correctness of data on a table which you provided concerning isolation of low pressure systems from the reactor coolant system. Enclosed is a revised table which provides our comments and additional information on the separation of these systems.

Sincerely yours,

L.D. White, Jr.
L. D. White, Jr.

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PLANT: R. E. Ginna

Evaluation of Isolation of Low Pressure Systems From Reactor Coolant System

Direct Interfaces ^{3,4}	Meets Isolation Criteria	Redundancy of Isolation	Type Valves	Testable Between Valves	Location of HP/LP Interface	Check Valve Orientation	Normal Method of Pressure Reduction	Method of Isolation	Remarks
Water Cleanup System ⁶			AOVs 200 A,B AOV 202			NA		Operator Action from Control Room	FSAR Section 9.2.2
Inlet	A,C	Yes	1AOV(427)	NA ⁸	Inside containment		Orifice		FSAR Figure 9.2-1
Discharge	B,C	Yes	2-Check	NA	NA	horizontal	NA	Check valves Automatic	system downstream of pos. disp. pumps designed for high press..
Seal Injection System ^{1,5} (return line)	D	Yes	AOVs 270 A,B MOV 313 AOV 386	Yes	Inside cv	NA	RCP seal and bypass orifice	J	FSAR Fig. 9.2-1
ECCS* Low Pressure Injection		Yes	1 Check 1 MOV	No	Inside containment	horizontal	NA	NA	MOV opens on SI signal. FSAR Figures 4.2-1 and 9.3-1.
Accumulators ¹		Yes	2-check	Yes	Inside containment	vertical designed for zero flow closure	NA	NA	May be testable thru accumulator test orifice (Fig. 6.2-1) but not required
Sampling System	G,C	Yes	2 AOVs & 2 manual per sampling line	NA	1 AOV & 1 manual inside containment 1 AOV & 1 manual outside containment ^F	NA	Manual Throttling valve	E	3 sampling lines (pressurizer steam & liquid space & hot leg) Drawing 33013-422

RHR System
Suction Side

The evaluation of this issue has been completed in the safe shutdown review.

Discharge Side

The evaluation of this issue has been completed in the safe shutdown review.

*HPSI design press is 1750 psig for pumps and 1500 psig for piping.

- NOTE:
1. PWRs only
 2. BWRs only
 3. Only direct interfaces considered--service water and component cooling water systems not evaluated
 4. High pressure systems (i.e., control rod drive hydraulic, isolation condenser, standby liquid control, high pressure injection, & RCIC) connected to reactor coolant pressure boundary not evaluated
 5. Inadvertent overpressurization of makeup tank due to reactor coolant pump seal leak off
 6. Reactor water cleanup system for BWRs and CVCS or Letdown System for PWRs
 7. Isolation requirements for ECCS specified in SRP 6.3 (Section III), for RHR system in BTP RSB 5-1 attached to SRP 5.4.7 and for water cleanup and sampling system in GDC 55
 8. NA - Not Applicable

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- A. RV 203 provides relief to the PRT and can pass full flow from all three letdown orifices at the design pressure for the letdown line downstream of the orifices (see Figure 2 of Appendix A to response to NRC from L. D. White, RG&E, dated February 24, 1977). System integrity will not be compromised even without operator action to close AOV's 200 A or b or AOV 202 or AOV 427.
- B. In addition to the two check valves inside containment, the system outside containment is closed between the containment and the charging pumps. All three charging pumps are positive displacement pumps. The piping between the pumps and RCS is designed for 2500 psig operation. Thus, failure of one or more of the check valves will not compromise the integrity of the CVC system. Because this system is designed for high pressure operation it need not be included in this evaluation.
- C. The isolation criteria for water cleanup systems (CVCS) and sampling systems given by NRC in the December 21, 1978 letter from Dennis Ziemann are those found in SRP 6.2.4 and GDC 55. These criteria are containment isolation criteria and are imposed to prevent the release of fission products from the containment following certain postulated accidents. They are neither applicable nor necessarily sufficient to prevent overpressurization of a low pressure system connected to the reactor coolant system. Overpressure protection of a low pressure system connected to the reactor coolant system may be provided by devices apart from the containment isolation system and by devices which limit the pressure in the low pressure system without "isolating" it.
- D. Relief valves are provided for the low pressure portions of the system both inside containment and on the volume control tank. These valves discharge to the pressurizer relief tank and waste holdup tanks respectively.
- E. The pressurizer sample lines AOVs are normally maintained closed. The hotleg sample line AOVs are normally open to allow operation of the failed fuel detector. The hotleg sample line is normally isolated by 2 additional normally closed manual valves downstream of the failed fuel detector. The failed fuel detector is manually throttled to the volume control tank. The air operated valves may be closed by operator action from the control room or the remote operation station and close on a containment isolation signal. Sample lines are for the most part 3/8" SS tubing.
- F. A sample line from the A loop hot leg is connected to the loop B hot leg sample line between AOV 955 and AOV 966C. The A loop line, however, contains three normally closed manually operated valves.
- G. A relief valve is provided for the low pressure portions of the system on the volume control tank to maintain system integrity in the event of operator error.

- J. AOV 270A, AOV 270B and AOV 386 are controlled by operator action in the control room. MOV 313 is closed by operator action in the control room or by a containment isolation signal.

