Nebraska Public Power District

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March 3, 1986

Office of Nuclear Reactor Regulation
BWR Project Directorate No. 2
Division of BWR Licensing
U.S. Nuclear Regulatory Commission
Washington, DC 20555

50-298

Attention: Mr. Daniel R. Muller

Reference: 1) Letter from J. M. Pilant to D. B. Vassallo dated September 3, 1985, "Containment Purge and Vent Valve Leak Rate Testing"

Attachment: 1) Example Technical Specification Changes

Dear Mr. Muller:

Subject: Containment Purge and Vent System Unresolved Issues

Several issues regarding the Containment Purge and Vent System remain open on the Cooper Nuclear Station (CNS) Docket. The District proposes these issues be considered together in a single resolution, rather than one at a time, for final closure. A listing and status of these items follows with suggested Technical Specification changes that are part of final closure contained in Attachment 1.

1. Debris Strainers - As noted in Reference 1, the District commits to install debris strainers on the two drywell purge and vent penetrations. If a staff SER on this subject is obtained before June 1, 1986, the strainers will be installed during the next refueling outage scheduled to begin in October, 1986.

2. Modification of Three Purge Valve Operators - As noted in Reference 1, the District is awaiting confirmation from the NRC Staff that the proposed modifications are acceptable. If this is obtained before June 1, 1986, the modifications will be completed during the next refueling outage scheduled to begin in October, 1986.

3. Leak Rate Testing of Purge and Vent Valves - The District believes the information previously submitted on the valve seals provides adequate justification for the present 12-month surveillance intervals. To provide additional

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assurance against seal degradation occurring over a period of several operating cycles, the District commits to change out the seals every five operating cycles. This requirement will be incorporated in the CNS Technical Specifications as shown on page 167 in the attachment. Seal durability will also be enhanced by a program of periodically lubricating the seals per manufacturer's recommendations.

4. Standby Gas Treatment (SBGT) System Use While Purging - As noted in Reference 1, the District will perform a test during startup from the first refueling outage commencing after July 1, 1986, to verify the feasibility of an alternate flow path around the SBGT System during certain startups. After this alternate flow path is proven viable, the District will submit a Technical Specification change similar to that shown on page 165a in the attachment. As noted in Reference 1, the District has submitted for review an evaluation which concluded that SBGT System operation through the 2-inch bypass valve around the inboard main isolation valve need not be constrained by any yearly limit on use. The District believes this evaluation should be part of the resolution of this issue. Page 180 of Attachment 1 reflects this conclusion on the 2-inch bypass valves.

If you have any questions on the above, please call.

Sincerely,

Jay M. Pilant

Jay M. Pilant
Technical Staff Manager
Nuclear Power Group

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LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
3.7.B (cont'd)	4.7.B (cont'd)
4. If these conditions cannot be met, procedures shall be initiated immediately to establish reactor conditions for which the standby gas treatment system is not required.	4.a. At least once per operating cycle automatic initiation of each branch of the standby gas treatment system shall be demonstrated.
	b. At least once per operating cycle manual operability of the bypass valve for filter cooling shall be demonstrated.
5. Use of the Standby Gas Treatment System for purging/venting the primary containment with both the inboard and outboard exhaust isolation valves open in series from the drywell (231MV and 246AV) and/or the Torus (230MV and 245AV) is limited to 120 hours per calendar year when coolant temperature is greater than 200°F.	c. When one standby gas treatment system becomes inoperable the other standby gas treatment system shall be demonstrated to be operable immediately and daily thereafter. A demonstration of diesel generator operability is not required by this specification.
C. Secondary Containment	C. Secondary Containment
1. Secondary containment integrity shall be maintained during all modes of plant operation except when all of the following conditions are met.	1. Secondary containment surveillance shall be performed as indicated below:

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
3.7.D (cont'd.)	4.7.D (cont'd.)
	b. At least once per quarter:
	(1) All normally open power operated isolation valves (except for the main steam line power-operated isolation valves) shall be fully closed and reopened.
	(2) With the reactor power less than 75%, trip main steam isolation valves individually and verify closure time.
	c. At least once per week the main steam line power-operated isolation valves shall be exercised by partial closure and subsequent reopening.
	d. At least once per operating cycle the operability of the reactor coolant system instrument line flow check valves shall be verified.
	e. The valve seals of the primary containment and Suppression Chamber Purge and Vent valves shall be replaced at least once per five operating cycles.
2. In the event any isolation valve specified in Table 3.7.1 becomes inoperable, reactor power operation may continue provided at least one valve in each line having an inoperable valve shall be in the mode corresponding to the isolation condition.	2. Whenever an isolation valve listed in Table 3.7.1 is inoperable, the position of at least one other valve in each line having an inoperable valve shall be recorded daily.
3. If Specification 3.7.D.1 and 3.7.D.2 cannot be met, an orderly shutdown shall be initiated and the reactor shall be in the Cold Shutdown condition within 24 hours.	

3.7.A & 4.7.A BASES (cont'd)

occurrence of the loss-of-coolant accident upon which the specified oxygen concentration limit is based. Permitting access to the drywell for leak inspections during a startup is judges prudent in terms of the added plant safety offered without significantly reducing the margin of safety. Thus, to preclude the possibility of starting the reactor and operating for extended period of time with significant leaks in the primary system, leak inspections are scheduled during periods when the primary system is at or near rated operating temperature and pressure. The 24-hour period to provide inerting is judged to be sufficient to perform the leak inspection and establish the required oxygen concentration.

The primary containment is normally slightly pressurized during periods of reactor operation. Nitrogen used for inerting could leak out of the containment but air could not leak in to increase oxygen concentration. Once the containment is filled with nitrogen to the required concentration, no monitoring of oxygen concentration is necessary. However, at least twice a week the oxygen concentration will be determined as added assurance.

The 500 gallon conservative limit on the nitrogen storage tank assures that adequate time is available to get the tank refilled assuming normal plant operation. The estimated maximum makeup rate is 1500 SCFD which would require about 160 gallons for a 10 day makeup requirement. The normal leak rate should be about 200 SCFD.

3.7.B & 3.7.C STANDBY GAS TREATMENT SYSTEM AND SECONDARY CONTAINMENT

The secondary containment is designed to minimize any ground level release of radioactive materials which might result from a serious accident. The reactor building provides secondary containment during reactor operation when the drywell is sealed and in service. The reactor building provides primary containment when the reactor is shut down and the drywell is open, as during refueling. Because the secondary containment is an integral part of the complete containment system, secondary containment is required at all times that primary containment is required as well as during refueling. Secondary containment may be broken for short periods of time to allow access to the reactor building roof to perform necessary inspections and maintenance.

The standby gas treatment system is designed to filter and exhaust the reactor building atmosphere to the stack during secondary containment isolation conditions. Both standby gas treatment system fans are designed to automatically start upon containment isolation and to maintain the reactor building pressure to the design negative pressure so that all leakage should be in-leakage. Should one system fail to start, the redundant system is designed to start automatically. Each of the two fans has 100 percent capacity.

The intent of Specification 3.7.B.5 is to minimize the time the SBGT system is on line while coolant temperature is greater than 200°F and both inboard and outboard exhaust isolation valves from the drywell and/or torus are open in series. The concern is to decrease the probability of damage to the SBGT filters that would occur from excessive differential pressure caused by a LOCA with the main isolation exhaust valves open in series. This specification does allow purge/venting with the bypass around the inboard exhaust valve and the outboard exhaust valve both open in series and the time does not count against the yearly limit. The NRC has determined that due to the small size of the bypass valve, there is no chance of damage to the filters if a LOCA occurs while purging/venting the containment through the bypass with the SBGT system on line.