Nebraska Public Power District

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NLS8400184

June 29, 1984

Mr. Darrell G. Eisenhut, Director
Division of Licensing
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Reference: 1) Letter from D. G. Eisenhut to All Licensees dated May 8, 1984, "Recombiner Capability Requirements of 10CFR50.44(c)(3)(ii) (Generic Letter 84-09)

2) Letter from D. B. Vassallo to J. M. Pilant dated May 18, 1984, same subject

3) Letter from D. G. Eisenhut to J. M. Pilant dated May 29, 1984, "Request for Additional Information (TMI II.K.3.28) 'Qualification of ADS Accumulators' per 10CFR50.54(f)"

4) Letter from W. Gammill to J. M. Pilant dated August 27, 1979

Dear Mr. Eisenhut:

Subject: Response to Generic Letter 84-09,
Hydrogen Recombiner Capability
Cooper Nuclear Station
NRC Docket No. 50-298, DPR-46

NRC regulations require BWR's that rely upon purge/repressurization systems as the primary means of hydrogen control to have hydrogen recombiner capability. Reference 1 informed licensees that a Mark I BWR will be found to not rely upon purge or pressurization systems as the primary means of hydrogen control if three specified criteria are satisfied. Reference 2 also advised the District to address the guidance provided in Reference 1 if the District wishes to pursue a request for relief in this area.

This letter is written to provide documentation that these criteria are met for Cooper Nuclear Station, thereby negating the requirement for installation of hydrogen recombiner capability.

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Criterion 1

The plant has Technical Specifications (limiting conditions for operation) requiring that, when the containment is required to be inerted, the containment atmosphere be less than four percent oxygen.

Response 1

CNS Technical Specification 3.7.A.5 meets this requirement.

Criterion 2

The plant has only nitrogen or recycled containment atmosphere for use in all pneumatic control systems within containment.

Response 2

In Sections 2.0 and 3.4 of the attachment to Reference 3, the Staff recently reviewed and summarized the normal (and backup) gas supply for the pneumatically actuated ADS valves at CNS. Nitrogen from the containment inerting system is the normal gas supply. This nitrogen gas supply is also used in all pneumatic control systems within the containment.

Criterion 3

There are no potential sources of oxygen in containment other than that resulting from radiolysis of the reactor coolant. Consideration of potential sources of in-leakage of air and oxygen into containment should include consideration of not only normal plant operating conditions but also postulated loss-of-coolant accident conditions. These potential sources of in-leakage should include instrument air systems, service air systems, MSIV leakage control systems, purge lines, penetrations pressurized with air, and inflatable door seals.

Response 3

The specified potential sources of air and oxygen in-leakage into the containment have been considered:

Instrument Air Systems - The instrument air system at CNS within the drywell and torus utilizes nitrogen.

Service Air Systems - The service air system at CNS is isolated from the drywell and torus when the containment is required to be inerted.

MSIV Leakage Control Systems - CNS does not have this type of system which utilizes an air source.

Purge Lines - The purge lines at CNS are isolated from the containment by double isolation valves outside of the containment. These valves are leak tested in accordance with the Technical Specifications to insure isolation capability.

Penetrations Pressurized with Air - There are no containment penetrations of this type at CNS.

Inflatable Door Seals - CNS does not utilize door seals inflated with air.

Reference 1 specified that the District should indicate the applicability of the generic study submitted by the Mark I Owners Group to Cooper Nuclear Station. The District's letter of September 6, 1982, (LQA8200180) informed the Staff that the District was participating in resolution of this issue with the BWR Owners Group. NEDO-22155, "Generation and Mitigation of Combustible Gas Mixtures in Inerted BWR Mark I Containments", was submitted to the NRC August 12, 1982, and specifies in Appendix A that the report applies to Cooper Nuclear Station. The District continues to participate in this Owners Group effort as the follow-on issues related to the Millstone Unit 1 "Combustible Gas Control Evaluation" are considered.

Paragraph 3 of Reference 1 made it "clear that a plant that has a 'safety grade' purge/repressurization system designed to conform with the general requirements of Criteria 41, 42, and 43 of Appendix A of 10CFR Part 50 and installed in accordance with 50.44(f) or 50.44(g) must continue to have that system . . ." In 1976 the District submitted the design of a Containment Atmosphere Dilution (CAD) system utilizing air for NRC approval. In 1979 (Reference 4) the District was informed that the NRC has suspended review work on the CNS ACAD system. The District would appreciate further clarification from the Staff as to the eventual completion of this system implementation process at CNS given the requirements of 10CFR50.44(g).

If you require further clarification on any of the above issues, please contact me.

Sincerely,

Jay M. Pilant

Jay M. Pilant
Technical Staff Manager
Nuclear Power Group

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