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SCHWENCER,A. Licensing Branch 2

SUBJECT: Advises of util decision to add auxiliary steam isolation devices to reduce potential reactor bldg accident environ conditions.Facility can be operated safely until mod completed for listed reasons.

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September 14, 1983
G02-83-832

Docket No. 50-397

Director of Nuclear Reactor Regulation
Attention: Mr. A. Schwencer, Chief
Licensing Branch No. 2
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Schwencer:

Subject: NUCLEAR PROJECT NO. 2
AUXILIARY STEAM LINE ISOLATION -
EQUIPMENT QUALIFICATION

Reference: Letter G02-83-590, G. D. Bouchey to A. Schwencer, dated June 30, 1983, subject "Nuclear Project No. 2 Justification for Interim Operation"

The Supply System has decided to add auxiliary steam isolation devices to reduce potential reactor building accident environmental conditions. We are bringing this matter to your attention at this time because of your ongoing review of environmental qualification and our responsibility to keep you informed of such changes.

General Design Criteria 4 states ". . . structures, systems and components important to safety shall be designed to accomodate the effects of, and to be compatible with the environmental conditions associated with . . . postulated accidents. These structures, systems and components shall be appropriately protected against dynamic effects . . . that may result from equipment failures . . . events and conditions outside the nuclear power unit."

In the consideration of this criterion, the Auxiliary Steam (AS) System (a non-safety system used primarily for space heating during cold weather) was analyzed as a High Energy Line Break (HELB) within the Reactor Building. Consistent with the WNP-2 criteria for high energy line breaks, auxiliary steam line breaks were postulated and the impact on safety-related equipment determined. No dynamic impacts on safety related equipment are associated with this line; however, for plant areas adjacent to the AS lines, the environmental conditions are controlled by the postulated breaks.

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The environmental effects from a break in the AS lines result in unacceptably high Reactor Building temperatures and relative humidity due to the operator time required to identify and manually isolate the affected line. The Supply System is undertaking a modification of these lines to provide qualified instrumentation to detect line breaks and qualified isolation valves to quickly isolate any potential break in the Reactor Building portion of the Auxiliary Steam System and minimize the impact on adjacent safety-related equipment.

Detailed design and procurement is underway for this recent design change. However, lead time for procurement of qualified isolation valves is substantial (about 6 months) and will not allow completion of the hardware change before fuel load. This change is scheduled to be completed after the completion of power ascension testing, but prior to utilization of Auxiliary Steam for heating in the Reactor Building in the fall of 1984.

We believe that the WNP-2 plant can be safely operated during fuel load and power ascension testing for the following reasons:

1. The probability of experiencing a break in the Auxiliary Steam System is small since it is only used for area heating during the colder months (about 3 months) of the year.

2. A postulated Auxiliary Steam Line break has no dynamic effect or direct impact on the reactor or a supporting safety system.

3. Auxiliary Steam is supplied only from the Auxiliary Boiler and contains no radioactivity. Access to the Reactor Building is available after isolation of the AS line break.

4. Consequences of a postulated line break are small with WNP-2 undergoing fuel loading and power ascension testing. During the few months when the AS line might be in operation, less than 25 equivalent full power days core exposure will be accumulated, (decay heat will be less than one percent of the rated power after 24 hours) and will represent minimal duty for safe shutdown equipment.

5. The AS line break analysis has conservatively assumed a coincident loss of offsite power which disables the normal Reactor Building ventilation system, thus maximizing the environmental effects on safety-related equipment.

6. As discussed in the Justification for Interim Operation Report, no safety-related equipment is required to solely mitigate an Auxiliary Steam line break. The safety-related equipment required for an AS line break is also required for a Reactor Water Cleanup (RWCU) line break. This equipment has been qualified or justified for the RWCU line break. These primary safe shutdown systems, ADS and RHR, would be used to mitigate the consequences of an AS line break prior to installation of the isolation valves.

Based on the above, the Supply System is proceeding to procure and install qualified instrumentation to sense an AS line break and qualified isolation valves to mitigate the environmental impact of this break. The AS design modification will result in new environmental profiles which are enveloped by the profiles currently included in the environmental submittal with referenced letter. Qualification of equipment potentially exposed to these new environmental conditions will be established in the six month period while the isolation valves and detection equipment are being procured.

For reasons discussed above, we believe WNP-2 can be safely operated without risk to public health and safety prior to completion of the minor design modification. If we can assist you in reviewing this matter, we are available.

Very truly yours,

Alan Hosler for

G. C. Sorensen, Acting Manager
Nuclear Safety and Regulatory Programs

GCS:mch

cc: R Auluck - NRC
WS Chin - BPA
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