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 AUTH. NAME AUTHOR AFFILIATION
 POWERS, R.P. Indiana Michigan Power Co. (formerly Indiana & Michigan Ele
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SUBJECT: Application for amends to licenses DPR-58 & DPR-74, revising
 TS page 3/4 5-6.

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Indiana Michigan
Power Company
500 Circle Drive
Buchanan, MI 49107 1373



September 14, 1998

AEP:NRC:1274
10 CFR 50.92

Docket Nos.: 50-315
50-316

U.S. Nuclear Regulatory Commission
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Gentlemen:

DONALD C. COOK NUCLEAR PLANT UNITS 1 AND 2
TECHNICAL SPECIFICATION AMENDMENT
SAFETY INJECTION PUMP RUNOUT FLOW LIMITS

This letter and its attachments constitute an application for amendment to the technical specifications (T/Ss) for Cook Nuclear Plant units 1 and 2. This amendment will change the runout limits for a safety injection pump to 675 gpm unless the pump is specifically tested to a higher flow rate not exceeding 700 gpm.

Background information relevant to the T/S change and our analyses concerning significant hazards considerations are contained in attachment 1 to this letter. Attachment 2 contains the current T/S pages, marked-up to reflect the proposed change. The proposed revised T/S pages are contained in attachment 3.


This submittal proposes a change to T/S page 3/4 5-6 for both unit 1 and 2. The proposed change will not result in a significant change in the types of effluents or a significant increase in the amounts of any effluents that may be released offsite or a significant increase in individual or cumulative occupational radiation exposure.

The proposed change has been reviewed and approved by the plant nuclear safety review committee and the nuclear safety and design review committee. We request that the approved amendment be effective thirty days from issuance.

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PDR ADDCK 05000315
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In accordance with the requirements of 10 CFR 50.91(b)(1), copies of this letter and its attachments have been transmitted to the Michigan Public Service Commission and the Michigan Department of Public Health.

Sincerely,


R. P. Powers
Vice President

SWORN TO AND SUBSCRIBED BEFORE ME

THIS 14 DAY OF September, 1998


Notary Public

My commission expires 11/22/01

/jmc

Attachments

c: J. A. Abramson, w/attachments
J. L. Caldwell, w/attachments
MDEQ - DW & RPD, w/attachments
NRC Resident Inspector, w/attachments
J. R. Sampson, w/attachments



ATTACHMENT 1 TO AEP:NRC:1274

SUPPORTING ANALYSES FOR
AMENDMENT TO THE TECHNICAL SPECIFICATIONS
SAFETY INJECTION PUMP RUNOUT FLOW LIMITS

Background

Amendment numbers 84 (6/24/85) and 64 (6/18/84), respectively, to the unit 1 and unit 2 technical specifications (T/Ss) incorporated a change to the allowable safety injection (SI) pump runout limits in T/S 4.5.2.h. The change raised the permissible runout flow of a single SI pump from 650 gpm to 700 gpm. The pump runout flow changes were necessitated by physical changes to the SI pump miniflow recirculation lines. These physical changes increased miniflow capacity from 30 gpm to approximately 60 gpm and it was anticipated that the increased miniflow would make it difficult to achieve all of the SI pump design flow objectives without exceeding the 650 gpm runout limit existing at that time. The justification for the change from 650 to 700 gpm was based on vendor testing (Dresser Industries) of a single Cook Nuclear Plant replacement safety injection pump and a spare element. The testing established safe pump operation up to a maximum flow of 700 gpm. We confirmed that the available net positive suction head to the SI pumps, as installed at the plant, was greater than that required to safely achieve 700 gpm during the vendor testing. Therefore, we believed this testing was also applicable to the three (untested) installed pumps.

In 1991, we received correspondence from Westinghouse indicating that the generic runout limits for Pacific 2" JTCH pumps was 675 gpm unless each specific pump was tested to a higher flow. At our request, Dresser reviewed the pump runout limits for Cook Nuclear Plant. Based on their review, Dresser concluded the following: 1) for the specific replacement pump and spare element previously tested by them, the 700 gpm runout limit remained applicable (this applies to the unit 2 north pump); and 2) for other (untested) SI pumps, Dresser's position was to abide by the general Westinghouse limit of 675 gpm (this applies to both unit 1 pumps and the unit 2 south pump). They indicated that manufacturing tolerances in sand cast impellers and material changes in the pump casing (of the tested replacement pump) could result in test variations that limit applicability of the testing between pumps. Dresser also indicated that the generic limit of 675 gpm could be increased for the three untested pumps, with appropriate in place or vendor testing. Review of SI pump flow balancing data indicated that proper balancing could be achieved without exceeding 675 gpm for the three pumps that had not been specifically tested for higher flows. Procedure 12 EHP 4030 STP.208SI, "U1 & U2 ECCS FLOW BALANCE SAFETY INJECTION SYSTEM", was changed to administratively limit flow of the three untested pumps to 675 gpm.

Based on procedural controls for limiting runout flow of the three untested pumps, we concluded in 1992 that the intent of T/S 4.5.2.h was being met and that a change to the T/Ss was not necessary. However, additional recent review has concluded that a change to the T/S should have been initiated. This submittal provides the necessary change and also clarifies the basis for setting the SI pump runout limits. The bases clarification describes why the injection lineup is more conservative than the sump recirculation lineup (when the RHR pumps are providing a suction pressure boost) for potential SI pump runout. This is due to splitting of the SI

trains during circulation, resulting in a higher system resistance than with a single SI pump injecting to all four reactor coolant loops.

Description of Amendment Request

Technical specification 4.5.2.h (SI system single pump) is being changed to require the maximum permitted runout flow rate for a SI pump be restricted to 675 gpm unless the pump is individually qualified to a higher flow rate of up to 700 gpm. Currently, T/S 4.5.2.h recognizes a runout flow rate of 700 gpm for each of the SI pumps. The basis is being clarified to describe why the injection lineup during flow balancing is the minimum resistance configuration for runout considerations.

Justification for Amendment

The proposed amendment is necessary to correct a technical discrepancy in the runout flow limit for safety injection pumps that have not been specifically tested to the limit currently allowed by T/S 4.5.2.h.

Basis for No Significant Hazards Determination

In accordance with 10 CFR 50.92, this proposed amendment does not involve a significant hazard consideration if it does not:

- 1) Involve a significant increase in the probability or consequences of an accident previously evaluated.

The proposed reduction in the SI pump runout flow does not increase the probability of occurrence of any previously evaluated accident because the SI pumps are not considered to be accident initiators. In addition, flow balancing performed at Cook Nuclear Plant has proven the ability to deliver the minimum T/S flow of 300 gpm to each pair of cold leg injection points without exceeding the 675 gpm (or 700 gpm) pump runout limits. Therefore, the emergency core cooling system performance objectives of 10 CFR 50.46 are not impacted and this change does not involve a significant increase in the consequences of an accident previously evaluated.

- 2) Create the possibility of a new or different kind of accident from any accident previously evaluated.

This proposed change imposes a generic limit on maximum allowable flow for untested SI pumps. No physical system changes or changes in operating modes are being made that could introduce new or different kinds of accidents from those previously evaluated. As discussed in (1) above, the SI pumps are not considered accident initiators, and this status is not affected by the change to the SI pump runout limits.

- 3) Involve a significant reduction in a margin of safety.

This change reflects a reduced maximum single pump flow to be observed during flow balancing of the SI system. Flow balance testing at Cook Nuclear Plant has demonstrated the ability to meet SI flow requirements while maintaining an adequate margin to the revised lower runout limits being proposed by this submittal. Because the minimum required SI flow delivered to the core has not been reduced by this change, the change does not involve a reduction in a margin of safety.

Based on the preceding, the evaluation concluded that the proposed change to the SI pump runout limits does not involve a significant hazards consideration as defined in 10 CFR 50.92.

ATTACHMENT 2 TO AEP:NRC:1274

CURRENT PAGES MARKED-UP TO SHOW PROPOSED CHANGES TO THE
DONALD C. COOK NUCLEAR PLANT UNITS 1 AND 2
TECHNICAL SPECIFICATION
SAFETY INJECTION PUMP RUNOUT FLOW LIMITS

UNIT NO. 1