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 AUTH. NAME AUTHOR AFFILIATION
 SORESENSEN, G.C. Washington Public Power Supply System
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SUBJECT: Application for amend to License NPF-21, revising Table
 3.3.1-2 to modify response time testing required for APRM.

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WASHINGTON PUBLIC POWER SUPPLY SYSTEM

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September 6, 1989
G02-89-153

Docket No. 50-397

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
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Gentlemen:

Subject: NUCLEAR PLANT NO. 2, OPERATING LICENSE NPF-21
REQUEST FOR AMENDMENT TO TECHNICAL SPECIFICATION
TABLE 3.3.1-2, REACTOR PROTECTION SYSTEM RESPONSE TIME

Reference: Letter, G02-89-152, CM Powers to NRC, "Request
for Temporary Relief from Technical Specification
Surveillance Requirement 4.3.1.3, Table 3.3.1-2,
Item 2.b", dated September 5, 1989

In accordance with the code of Federal Regulations, Title 10, Parts 50.90, 2.101 and 50.91(a)(5), the Supply System hereby submits a request for amendment to the WNP-2 Technical Specifications on an emergency basis as provided for in the regulations. Specifically, the Supply System is requesting that Table 3.3.1-2 be revised as attached to modify the response time testing required for the APRM Flow Biased Simulated Thermal Power Upscale function.

The need for this change was identified on September 5, 1989 by the Plant Operations Committee as a result of the product of a total review of the neutron monitoring system. The Technical Specification requires that this Reactor Protection System (RPS) response time be confirmed to be less than or equal to 0.09 seconds not including the simulated thermal power time constant of 6 \pm 1 seconds.

The present WNP-2 surveillance procedures, PPM 7.4.3.1.3.5, .6, .7 and .8, and the plant design do not provide for independent measurement of these two values. As a result of the plant management determination that strict compliance to the technical specifications was not being satisfied, Action 4 of Table 3.3.1-1 was entered at 12:30 p.m. PDT on September 5 and plant shut-down was initiated to be in at least Startup by 6:30 p.m.

Justification was presented in the reference as to why this situation did not raise any concerns for the safe operation of the plant and a temporary relief from the technical specification requirement was requested on this basis.

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At 4:20 p.m. the NRC staff responded to the reference by stating that they agreed there did not appear to be any safety concern and as a result the Supply System was authorized to continue to operate with this condition for the near term. At that time the power had been reduced to 30 percent. An emergency technical specification change was requested to be submitted on September 6, 1989.

Regarding the purpose of the flow-biased trip, although it has the potential to improve the transient MCPR response for some events, we do not rely on this feature to establish MCPR operating limits. Only the 118 percent high flux (non-flow referenced) trip function is considered in these analyses. Initially the flow referenced trip utilized APRM flux to correlate to the thermal power level. This was satisfactory for steady-state operation but was found to cause unnecessary trips during some non-steady state conditions. As a result a change was made in BWRs to reference the neutron flux to a variable similar to the thermal power. This was accomplished by adding to the APRM output signal a time constant representative of the fuel dynamics to obtain a signal that approximates the average heat flux. In 1976 General Electric recommended installation of this feature in those plants that did not already have it installed.

A time constant of 6 seconds was selected for WNP-2. With this long time constant added to the APRM signal, the 0.09 second RPS response time value was no longer of significance. The 0.09 second RPS response time for the 118 percent high flux trip is significant and is confirmed by surveillance procedures.

In this submittal we are requesting that the surveillance acceptance criterion be changed to 6 \pm 1 second. Although we do not rely on this feature to establish MCPR operating limits the overall time response is the important parameter to the performance of this trip. The fact that this overall value may have an instrument loop delay component of 0.09 seconds is not of importance to the channel performance.

The above mentioned surveillance procedures do measure both the overall channel response and the 6 second thermal time constant so that any significant change in the loop response time would be detected. However, these two measurements can not be obtained with sufficient accuracy such that by subtraction a delay of 0.09 seconds or less can be confirmed.

The Supply System has evaluated this amendment request per 10CFR 50.92 and has determined that it does not represent a significant hazard because it does not:

- 1) Involve a significant increase in the probability or consequence of an accident previously evaluated. The trip function is an accident prevention and mitigating feature and, as such, has no potential to cause an accident. As a mitigating feature its potential to increase the consequences of an accident by its failure was considered. In this regard, the change requested does not adversely impact the reliability or performance of the trip. The important parameter of the overall time delay is being maintained. In fact it will be more closely controlled in that the existing technical specifications allow it to vary from 5.0 to 7.09 seconds and for the requested change it can only vary from 5.0 to 7.0 seconds. Also, while the feature could mitigate some transients, no credit is taken for the trip in the WNP-2 accident analysis.



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- 2) Create the possibility of a new or different kind of accident from any accident previously evaluated. As a transient preventing and mitigating feature, the trip has no potential to cause a new type of accident except by its potential failure which is addressed above. Its most adverse contribution to plant operation would be a failure causing an unnecessary scram. While this is a valid reliability concern and would represent a challenge to safety systems, it does not represent a new type of accident or even an accident currently identified. Also, the change requested has no potential to increase the risk of spurious trips.
- 3) It does not create a significant reduction in a margin of safety. As the important time constant (i.e. the overall value) is being maintained and the 0.09 second loop contribution to this value is unimportant to the channel performance, there is no reduction in safety. Also, the trip is not important to the plant safety analysis.

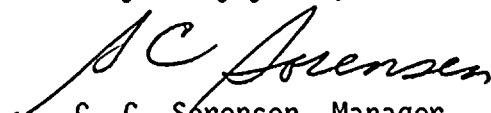
It is also significant that we are not proposing a change to the plant design but only a change to the RPS response time criterion used to confirm system operability.

As discussed above, the Supply System considers that this change does not involve a significant hazards consideration, nor is there a potential for significant change in the types or significant increase in the amount of any effluents that may be released offsite, nor does it involve a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed change meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9) and therefore, per 10CFR 51.22(b), an environmental assessment of the change is not required.

In summary, based on the assertion that no significant hazard is created by the proposed amendment and that the proposed change provides for adequate surveillance of the RPS trip response, we believe approval of the proposed amendment does not represent an undue risk to the health and safety of the public. Additionally, absent this amendment and expiration of the above mentioned NRC short-term relief, the WNP-2 Plant will be required to commence shutdown.

This amendment request has been reviewed and approved by the WNP-2 Plant Operating Committee (POC) and the Supply System Corporate Nuclear Safety Review Board (CNSRB). In accordance with 10 CFR 50.91, the State of Washington has been provided a copy of this letter.

Very truly yours,


G. C. Sorensen, Manager
Regulatory Programs

AGH/bk

cc: JB Martin - NRC RV
NS Reynolds - BCP&R
RB Samworth - NRC
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