

Washington Public Power Supply System

P.O. Box 968 3000 George Washington Way Richland, Washington 99352 (509) 372-5000

October 2, 1984
G02-84-528

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 PLANT NO. 2
REQUEST FOR CONFIRMATION OF JUSTIFICATION
FOR INTERIM OPERATION

WNP-2 has recently suffered a ventilation fan motor failure on Fan WMA-FN-53A which provides cooling and ventilation for the Division One battery, battery charger, and critical switchgear rooms.

WNP-2 position, with supporting technical justification, is that installation and operation of a similar motor, which has not had its seismic qualification performed, will allow a safe return to power operation for an interim period without jeopardizing the health and safety of the public.

In summary, our plan is as follows:

- 1) Install the Reliance motor (as described in Attachment 1) and return it to service by 0300 on October 3, 1984.
- 2) Obtain the seismic qualification for the Reliance motor within 4 weeks.
- 3) Order a fully qualified spare replacement motor for delivery in approximately 2 weeks.

The only available replacement motor (Reliance) has not had seismic analysis performed on the motor for the seismic conditions for this service. Discussions with the motor manufacturer and our own Equipment Qualification Engineering indicate that seismic qualification will be

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successful and can be obtained in about four weeks. A fully qualified spare replacement motor has been ordered and receipt is expected within about 2 weeks. If the Reliance motor were postulated to fail during this interim period, or if installation of a qualified motor were required, the provisions of our Technical Specifications will be complied with. Alternative cooling methods can be made available within four hours on a temporary basis in the event of motor failure. Attachment 1 is a detailed technical justification for use of the not yet qualified replacement motor until it can be qualified or a qualified replacement is installed.

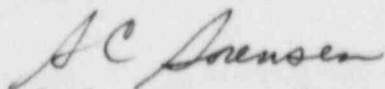
The Bonneville Power Administration has demonstrated a current need for the power produced by WNP-2. The Trojan Plant and our Hanford Generating Plant (HGP) are presently off line and the Columbia River dam water level is low resulting in the BPA request for WNP-2 to return to power as soon as possible.

The Supply System has reviewed this justification for interim operation and considers it to represent no significant hazard. Interim operation does not:

- (1) Involve a significant increase in the probability or consequences of an accident previously evaluated; or
- (2) Create the possibility of a new or different kind of accident from any accident previously evaluated; or
- (3) Involve a significant reduction in a margin of safety.

Expeditious NRC approval of this position is requested to support plant startup commencing as early as 3:00 a.m. PDT, October 3, 1984. Should you have any questions, please contact Mr. P. L. Powell, Manager, WNP-2 Licensing.

Very truly yours,



G. C. Sorensen, Manager
Regulatory Programs

KDC/tmh

Attachment - 1) Technical Justification for Continued Operation

cc: R Auluck - NRC
WS Chin - BPA
JB Martin - NRC RV
AD Toth - NRC Site

ATTACHMENT 1

1.0 COMPONENT IDENTIFICATION

EPN: WMA-M-53A
Description: Fan motor for HVAC fan for Division 1 battery, battery charger, and critical switchgear rooms.
Component Type: Motor
Manufacturer/Model: Reliance Model 8464

2.0 ACCIDENT CONDITIONS

Mild environment.

3.0 COMPONENT SAFETY FUNCTION

This motor drives fan WMA-FN-53A, which provides cooling for safety-related components and equipment in Division 1 battery, battery charger, and electrical switchgear rooms. The motor is continuously energized. High temperature alarms occur whenever the temperature in the supplied spaces rises to 104°F. The system is designed to maintain the general temperature of these spaces at 70°F. During abnormal or accident condition, the maximum abnormal temperature could increase to 120°F for short durations.

4.0 QUALIFICATION STATUS

4.1 Summary of Qualification Status

Due to a insulation failure, the original motor, a Westinghouse 10HP, 3Ø, 460V, was damaged. A search for a qualified replacement motor was launched and none found that met the operational schedules for the plant.

However, a Reliance motor of the same HP rating with greater operational design margin was found. This motor did not have seismic qualification documentation available.

4.2 Parameter Requiring Justification

Seismic.

5.0 JUSTIFICATION FOR INTERIM OPERATION

Recent studies (see EPRI report titled "Life Expectancy of Motors in Mild Environment Areas in Nuclear Power Plants, February 1984", excerpts attached) conclude that motors are inherently rugged and have internal forces to components many times more than the forces received during seismic excitation. The mounting method of the replacement Reliance motor is identical to the original qualified motor.

In addition, there are design characteristics of the replacement motor that demonstrate additional design operational margin. The replacement motor has a service factor of 1.15 which provides for temporary overload capability of 15% above the full load HP rating. The original motor provided no overload rating with its S.F. of 1.0. The Insulation Class F provides for longer anticipated life than the Class B insulation of the original motor.

A comparison of the replacement and original motor operational characteristics are attached.

Based on the above engineering information, the replacement motor is qualifiable to the relatively low "G" levels required at the 525' floor level of the Radwaste Building. The motor will be evaluated at 3g horizontal and 2g vertical. The motor support stand has been previously analyzed and found to be rigid above 20 Hz, which is the ZPA frequency of Required Response spectra for this elevation in the Radwaste Building. Previous reviews of Reliance Class B, F, and Reliance Class H motor tests resulted in positive qualification findings.

In addition to the engineering judgement of qualifiability, the equipment rooms are equipped with temperature alarms that alarm in Control Room. In the unlikely event of motor failure, an eventual temperature alarm will alert the Operator to the increasing temperature of these spaces. Shutdown will be completed within 12 hours per Technical Specification requirements if motor repair or replacement cannot be affected within this time limit.

WEA-FN-53A draws exhaust air from the Battery Room equipment space, thus ensuring control of H₂ buildup. Failure of the supply air fan motor WMA-FN-53A does not result in loss of H₂ ventilation control.

Also, as indicated on the 10CFR50.59 worksheet, the redundancy of components and backup systems preclude breakdown of the ECCS for WNP-2 in the postulated failure of the cooling air supply to Division 1 critical equipment spaces.

The replacement motor was procured QA-I, Commercial Grade, in accordance with standard WNP-2 QA Procedures.

6.0 CONCLUSION

Based on the above high confidence of replacement motor qualifiability, its increased design operational margin, alarm, and operation action to establish local cooling if needed and redundancy of ECCS cooling capability, this analysis concludes that WNP-2 can be operated safely pending completion of the seismic qualification of the replacement fan cooling motor WMA-M-53A or obtaining and installing a qualified motor. Expedited seismic qualification for the replacement motor will take approximately one month to achieve with vendor cooperation.

WMA-M-53A
MOTOR SPECIFICATION

	<u>Replacement</u>	<u>Original</u>
Manufacturer	Reliance	Westinghouse
Model	MN8464	Life Line "T" (TBFC)
Quality Class (SS)	QA-1 Commercial	QA-1
Phase	3Ø	3Ø
Frequency	60 Hz	60 Hz
KVA Code	F	G
Horsepower	50	50
RPM	1770	1770
Insulation Class	F	B
NEMA Class	B	B
Service Factor	1.15	1.0
Frame	326T	326T
Duty	Continuous	24 Hr.
Ambient	40°C	40°C
Voltage	230/460	230/460
Amps	124/62	120/60
Serial Number	P32G312F-G14-YHSENC-TF	7512
Drive-End Bearing	55BC03X30X26	60BCU3dPP3
Opposite End Bearing	55BC03X30X26	55BCD3dPP3