UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 76 TO FACILITY OPERATING LICENSE NO. NPF-21

WASHINGTON PUBLIC POWER SUPPLY SYSTEM

NUCLEAR PROJECT NO. 2

DOCKET NO. 50-397

1.0 INTRODUCTION

On January 2, 1990, WNP-2 failed to meet the Technical Specification (TS) surveillance requirement 4.8.1.1.2.d.2 to verify an impurity level of less than 2 mg of insolubles per 100 ml when tested in accordance with ASTM D 2274-70. By letter dated January 3, 1990 the licensee requested a one time relief from TS surveillance requirement 4.8.1.1.2.d.2 in order to avoid unnecessary shutdown of the facility. Upon approval of this relief, the licensee would perform monthly sampling from the discharge of the running fuel oil transfer pump for testing in accordance with ASTM D 2276-78, Method A. ASTM D 2276-78, Method A determines particulate contamination in the diesel fuel oil. ASTM D 2274-70 measures the stability of distillate fuel oil under accelerated oxidizing conditions. On January 4, 1990, by exercising enforcement discretion Region V granted temporary relief from the surveillance requirement until 6 pm, January 5, 1990, to permit the licensee to prepare and submit an application for an emergency TS amendment. By letter dated January 4, 1990, the licensee requested an amendment to the WNP-2 TS on an emergency basis. This amendment requested replacement of impurity level surveillance by ASTM D 2274-70 with particulate contamination level surveillance by ASTM D 2276-78.

On January 5, 1990, NRC authorized a temporary waiver of compliance with TS surveillance requirement 4.8.1.1.2.d.2 for diesel fuel oil impurity testing in accordance with ASTM D 2274-70, to be effective until we have completed our review of the licensees January 4, 1990 emergency TS amendment request. By letter dated February 2, 1990 the licensee revised the request to make the change effective through May 30, 1990.

2.0 EVALUATION

The diesel fuel oil system which supplies quality fuel to the diesel generators is one of the support systems for the diesel generators required to ensure their proper operation. The TS surveillance requirements ensure the quality, and additionally, the corrective actions in the event the fuel does not meet the specified quality criteria. The existing TS requires testing of the stored fuel oil impurity level in accordance with ASTM D 2274-70 every 92 days. The proposed emergency TS amendment requests replacement of the present impurity level surveillance done by ASTM D 2274-70 with particulate

contamination level surveillance done by ASTM D 2276-78 every 31 days. ASTM D 2274-70, specified in existing TS surveillance requirements, involves the measurement of the stability of distillate fuel oil under accelerated oxidizing conditions and has an acceptance level of less than 2 mg of insolubles per 100 ml. This test method for the existing TS involves taking a fuel oil sample from the tank with a thief sampler, filtering the sample, heating the sample to 203°F, bubbling oxygen into the sample for 16 hours, and then filtering and weighing the particulates collected. This test provides a measure of the aging of fuel which results in particulate generation.

The replacement standard proposed in the requested emergency TS amendment, ASTM D 2276-78, Method A, involves a gravimetric determination of total particulate contaminant in the fuel and has an acceptance level of 10 mg per liter. The test method for the proposed TS involves taking a sample from a flowing pipe that is circulating the fuel oil from the storage tank to the day tank and then filtering and weighing the particulates collected. This proposed test provides gravimetric measurement of the particulates present in the existing stored fuel oil which must be minimized to avoid filter plugging and other particulate induced diesel operational problems.

It is the staff's position that the substitution of ASTM D 2274-70 for ASTM D 2276-78, Method A is acceptable on an interim basis. The use of ASTM D 2276-78, Method A on a permanent basis should be accompanied by further modifying of other surveillance requirements to provide immediate assurance for acceptance of quality fuel oil and maintenance of high quality stored fuel to ensure increased diesel generator availability. A fully effective fuel oil surveillance program, adopted by several licensees, improved TS program, and ANSI/ANS-59.51 "Fuel Oil Systems For Emergency Diesel Generators" would involve:

- different method for sampling and testing stored fuel oil,
- modifications to the procedure and criteria for accepting new fuel shipments for addition to stored fuel oil,
- addition of a requirement to drain water from fuel oil storage tanks on a regular basis,
- addition of alternate test methods for determining some fueil oil properties, and,
- deletion of certain tests on stored fuel oil.

We have evaluated the proposed emergency TS amendment and find it acceptable on an interim basis for a period of 120 days until a permanent TS change is submitted and approved. After 120 days the TS surveillance requirement 4.8.1.1.2.d.2 will revert back to the existing TS stability

testing in accordance with ASTM D 2274-70. We conclude that the proposed ASTM D 2276-78, Method A testing, which would be performed every 31 days compared to every 92 days in the existing TS ASTM D 2274-70, would provide adequate data to determine the fuel oil condition at the time of sampling as well as the tendency for formation of particulates under site storage conditions. During the interim period, we expect the licensee to do the following:

1. Determine the root cause of the sample results which failed to meet the TS surveillance requirement 4.8.1.1.2.d.2.

2. Submit a new TS amendment application to be effective when this interim emergency TS expires if required.

3. Provide plans for other treatments or additives to the storage tank to ensure that particulate generation in the storage tanks will be minimized, if applicable.

3.0 EMERGENCY CIRCUMSTANCES

The need for this change was identified on January 2, 1990 when the licensee was notified of results from analyses of quarterly samples taken on December 27, 1989. The results showed that the fuel oil impurity levels exceeded the value allowed by the surveillance requirement in the TS. Because the values reported to the licensee were substantially higher than previously experienced and because such a step change was not a usual expectation, the licensee requested confirmatory analysis from the laboratory. Results from the confirmatory analysis were received on January 3, and indeed confirmed that the fuel oil did not meet the TS.

At 4:45 p.m. PDT on January 3, the licensee declared the diesel generators inoperable and entered TS 3.0.3, leading to plant shutdown. The licensee requested relief from the surveillance requirement by letter on January 3 and January 4, 1990, applied for an amendment to the TS on an emergency basis to allow the unit to remain at power. At 6:45 p.m. PDT, January 3, the NRC staff granted the requested relief based on supplemental measurements which showed that at the present time fuel oil quality was sufficient to not impact operability of the generators. Based on the receipt of the license amendment application, additional relief was granted on January 5, for the period in which the amendment application was undergoing review.

We also find that the licensee could not reasonably have avoided this situation, that the licensee has responded in a timely manner, and has not delayed its application to take advantage of the Emergency License Amendment provisions of 10 CFR 50.91. Accordingly, the NRC staff concludes that the licensee has satisfied the requirements of 10 CFR 50.91(a)(5), and that a valid emergency exists.

This was confirmed by letters to the licensee dated January 4 and January 5, 1990.

4.0 ENVIRONMENTAL CONSIDERATION

This amendment involves a change in requirements with respect to the user installation of components located within the restricted area and changes in surveillance requirements. The staff has determined that this amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The staff has determined that the requested amendment does not involve a significant hazards consideration. Accordingly, this amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of this amendment.

5.0 FINAL NO SIGNIFICANT HAZARDS CONSIDERATION

The Commission's regulations in 10 CFR 50.92 state that the Commission may make a final determination that a license amendment involves no significant hazards considerations if operation of the facility in accordance with the amendment would not:

1. Involve a significant increase in the probability or the consequences of any 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.

The amendment has been evaluated against these standards in 10 CFR 50.92. A discussion of these standards as they relate to the amendment request follows:

1. The change does not involve a significant increase in the probability or consequence of an accident previously evaluated because the diesel generators are transient and accident mitigating features and as such do not have the potential to increase the probability of an accident previously evaluated. The proposed change to ASTM D 2276-78 and the increased surveillance frequency will increase the reliability of the diesels and, as such, the mitigating feature of the diesels is enhanced.

2. The change does not create the possibility of a new or different kind of accident from any accident previously evaluated because testing to ASTM D 2276-78 is a superior method of determining fuel oil quality and as such the diesel reliability is not degraded and the possibility of new or different kinds of accidents is not presented.

3. The change does not create a significant reduction in margin of safety because the proposed change to ASTM D 2276 and the increased surveillance frequency will result in improved diesel reliability and as such there is no reduction in the margin of safety.

Accordingly, the Commission has determined that this amendment involves no significant hazards consideration.

6.0 CONTACT WITH STATE OFFICIAL

In accordance with 10 CFR 50.91, the licensee provided the State of Washington with a copy of its application. By letter dated January 17, 1990 the State of Washington advised that they do not have any comment on this amendment application.

7.0 CONCLUSION

In summary, based on the assertion that no significant hazard is created by the amendment and that the testing of the fuel oil in accordance with ASTM D2276-78 provides adequate assurance that the diesel generators are operable, the staff finds the proposed change to the method of testing is acceptable for a period of 120 days. In the interim, we expect the licensee to do the following:

1. Determine the root cause explaining the sample results which failed to meet the TS surveillance requirement 4.8.1.1.2.d.2,

2. Submit a new TS amendment application to be effective when this emergency TS expires after 120 days, and

3. Provide plans for other treatments or additives to the storage tanks to ensure that generation of particulates in the storage tanks will be minimized.

We have concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

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Dated: February 22, 1990