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U. S. NUCLEAR REGULATORY COMMISSION
Document Control Desk
Mail Station P1-137
Washington, D. C. 20555

Gentlemen:

DOCKETS 50-266 AND 50-301
GUIDANCE ON IST PROGRAMS
GENERIC LETTER 89-04 FOLLOW-UP
POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

As part of our October 3, 1989 response to Generic Letter 89-04, we committed to complete some specific testing by December 31, 1989. Following this testing, based on the results, we would identify our course of action on the areas of containment spray pumps and the service water system.

Containment Spray Pumps

Generic Letter 89-04, Item 9. Our special testing indicated that we could utilize a mini recirc flow path that contains flow indication. This method of testing is, however, operationally undesirable. First, it provides only single valve isolation between pump discharge pressure and the containment spray nozzles. The resultant potential for inadvertently spraying of containment is a risk we choose not to assume. Secondly, a portion of the piping can become filled with borated water and remain in this condition for extended time periods. This also is a condition we want to avoid.

In order to comply with the requirements of Generic Letter 89-04, Item 9, we will make physical modifications to the containment spray systems of Units 1 and 2. Piping systems will be installed which will allow pump full-flow testing on a routine basis during operation. Flow instrumentation will be installed. These system modifications will be installed during each unit's 1991 refueling outage.

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Service Water System

Generic Letter 89-04, Item 1, requires full-flow testing of pump discharge check valves.

Item 3 requires check valve back-leakage testing (not specifically identified in the October 3, 1989 response, but tested for).

Item 9 requires pump testing at full or substantial flow and obtaining required test quantities.

The results of our December 12, 1989 testing were inconclusive as to whether or not we can comply with Generic Letter 89-04, Items 1, 3, and 9 relative to the service water system. We plan to rescope our testing to ensure that routine testing, in accordance with Items 1, 3, and 9, can be done. We will complete this testing by April 1, 1990.

Requested Relief

We request relief from two ASME Code requirements that we are meeting. These two areas are (1) the use of amplitude as units of vibration measurement for pumps and (2) taking pump bearing measurements. Relief requests for these two items, as they will be inserted into our IST program, are attached.

As these relief requests are not addressed in Generic Letter 89-04, and in keeping with the guidance provided therein, we will not implement the alternate testing described until we receive NRC approval. We believe these requests are technically well supported and are generally accepted practices throughout the nuclear industry. Further, the relief described will cause the test run times of safety-related pumps to be reduced. For the reasons given, we request approval of these relief requests as soon as possible.

Fuel Oil Transfer System, Addition to IST Program

In the near future, we will add the fuel oil transfer system pumps and valves to the IST program. Initially, testing will not be in compliance with Section XI Codes due to the current system configuration. Modifications to upgrade the configuration to that required to satisfy testing are being developed. Rather than delaying testing to wait for modifications to be completed or relief request approval, we plan to begin testing with the system as it is. When physical modifications are completed, we will test according to ASME Section XI. The physical modifications needed will be completed by January 1991.

Because we will be submitting a complete IST program rewrite for the next ten-year interval before January 1, 1991, we do not intend to submit the program changes for fuel oil transfer system inclusion to you prior to January 1, 1991.

We will be updating our IST program to reflect the addition of the fuel oil transfer system.

Compliance Status Summary

Attached is a Compliance Status Summary revised to indicate the information on the containment spray pumps and service water system. Changes are indicated by bars in the right margin. The summary has been given a revision number and date.

Very truly yours,

C. W. Fay
Vice president
Nuclear Power

Attachments

Copies to NRC Regional Administrator, Region III
NRc Resident Inspector

COMPLIANCE STATUS SUMMARY

GL 89-04 Item	Compliance/Status	
1	No	Additional special testing required, to be completed by April 1, 1990.
2	Yes	Except alternate testing per page 3 of GL 89-04 was selected for some valves.
3	No	Physical modifications required
4	Yes	
5	No	Following the corrective actions described compliance will be achieved.
6	Yes	
7	(Not applicable to PWRs)	
8	Yes	
9	No	a. Containment spray system of both units to be modified to allow full flow testing. Completion by January 1992. b. Service water system implementing procedures changed by August 1990.
10	Yes	Except that limits apply by penetration which may be more than one valve.
11	No	Scope review to be completed as part of our next 10-year IST cycle, December 1990.

PUMP RELIEF REQUEST NO. 11

System:	Safety Related, Unit 1 and Unit 2
Component:	All pumps in the program
Class:	All
Function:	To provide flow to safety systems
Test Requirements:	To measure vibration in units of displacement. (IWP 3210, IWP 4500 and any other sections)
Basis for Relief:	The state of the art of vibration testing has improved dramatically over several years. Experience has shown that vibration testing can be a primary indicator of pump performance and degradation so long as proper units are measured and analyzed. This is documented in the current ASME Section XI code in that OM-6, which allows the use of vibration velocity, is crossreferenced.
Alternate Testing:	The use of velocity as our vibration units and to use OM-b - 1989, Part 6, Tables 3 and 3a (attached) to define our vibration acceptance criteria.

Status:
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TABLE 3
RANGES FOR TEST PARAMETERS

(b)

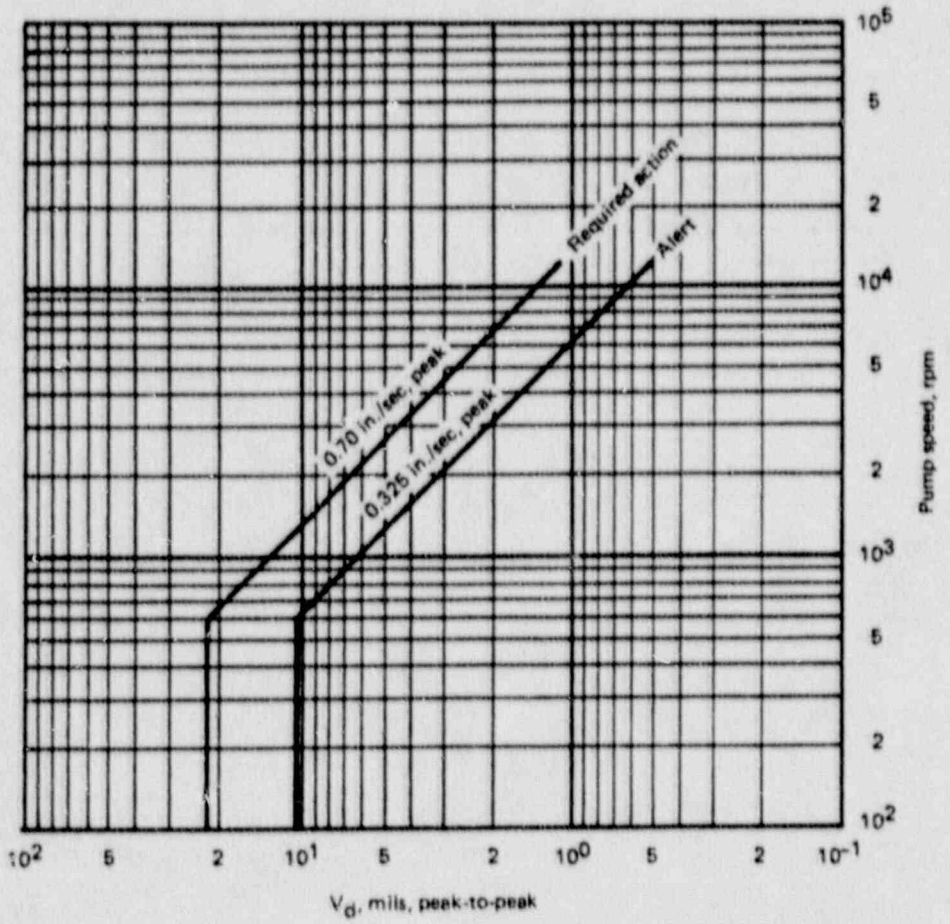

TABLE 3a[1]

Pump Type	Pump Speed	Test Parameter	Acceptable Range	Alert Range	Required Action Range
Centrifugal and vertical line shaft [Note (2)]	< 600 rpm	V_d or V_v	≤ 2.5 V_r	> 2.5 V_r to 6 V_r, or > 10.5 mils	> 6 V_r, or > 22 mils
Centrifugal and vertical line shaft [Note (2)]	≥ 600 rpm	V_v or V_d	≤ 2.5 V_r	> 2.5 V_r to 6 V_r, or > 0.325 in./sec	> 6 V_r, or > 0.70 in./sec
Reciprocating		V_d or V_v	≤ 2.5 V_r	> 2.5 V_r to 6 V_r	> 6 V_r

(Table 3 continues on next page.)

(Notes follow at end of table.)

TABLE 3b

Test Parameter	Acceptable Range	Alert Range		Required Action Range	
		Low	High	Low	High
P (Positive displacement pumps)	0.93 to 1.10P_r	0.90 to < .93P_r	...	< 0.90P_r	> 1.10P_r
ΔP (Vertical line shaft pumps)	0.95 to 1.10ΔP_r	0.93 to < .95ΔP_r	...	< 0.93ΔP_r	> 1.10ΔP_r
Q (Positive displacement vertical line shaft pumps)	0.95 to 1.10Q_r	0.93 to < .95Q_r	...	< 0.93Q_r	> 1.10Q_r
ΔP (Centrifugal pumps)	0.90 to 1.10ΔP_r	...	...	< 0.90ΔP_r	> 1.10ΔP_r
Q (Centrifugal pumps)	0.90 to 1.10Q_r	...	...	< 0.90Q_r	> 1.10Q_r

GENERAL NOTE: The subscript r denotes reference value.

NOTES:
(1) Vibration parameter per Table 2. V_r is vibration reference value in the selected units.
(2) Refer to Fig. 1 to establish displacement limits for pumps with speeds ≥ 600 rpm or velocity limits for pumps with speeds < 600 rpm.

6.2 Time Allowed for Analysis of Tests

All test data shall be analyzed within 96 hr after completion of a test.

7 RECORDS AND REPORTS

7.1 Pump Records

The Owner shall maintain a record which shall include the following for each pump covered by this Part:

(*a*) the manufacturer and the manufacturer's model and serial or other identification number;

(*b*) a copy or summary of the manufacturer's acceptance test report if available;

(*c*) a copy of the pump manufacturer's operating limits.

7.2 Inservice Test Plans

The Owner shall maintain a record of test plans and procedures which shall include the following:

(*a*) the hydraulic circuit to be used;

(*b*) the location and type of measurement for the required test parameters;

(*c*) the reference values;

(*d*) the method of determining reference values which are not directly measured by instrumentation.

7.3 Record of Tests

The Owner shall maintain a record of each test which shall include the following:

(*a*) pump identification;

(*b*) date of test;

(*c*) reason for test (e.g., post-maintenance, routine inservice test, establishing reference values);

(*d*) values of measured parameters;

(*e*) identification of instruments used;

(*f*) comparisons with allowable ranges of test values and analysis of deviations;

(*g*) requirement for corrective action;

(*h*) evaluation and justification for changes to reference values;

(*i*) signature of the person or persons responsible for conducting and analyzing the test.

7.4 Record of Corrective Action

The Owner shall maintain records of corrective action which shall include a summary of the corrections made, the subsequent inservice tests and confirmation of operational adequacy (see para. 4.4), and the signature of the individual responsible for corrective action and verification of results.

PUMP RELIEF REQUEST NO. 12

System:	Safety Related, Unit 1 and Unit 2
Component:	All pumps in the program
Class:	All
Function:	To provide flow to safety systems
Test Requirements:	To measure each test quantity in Table IWP-3100-1; this includes bearing temperatures.
Basis for Relief:	Almost all pumps are designed such that temperature at the bearing itself cannot be obtained. The temperature which is actually monitored is bearing housing temperature or cooling/ lubricant temperatures. Such temperatures are not representative of what is actually occurring at the bearing. Due to the failure mechanisms of bearings, it is unlikely that occasional, periodic temperature monitoring will indicate impending failures.
Alternate Testing:	To perform vibration monitoring, using the units of velocity, via state-of-the-art data analysis equipment provided pump relief request 11 is granted. Such vibration monitoring can indicate bearing performance and degradation.

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