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the southern electric system

SEP 09 1988

10CFR50.55a(g)

Docket No. 50-348

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D. C. 20555

Gentlemen:

Joseph M. Farley Nuclear Plant - Unit 1
Second Ten-Year Interval Inservice Testing Program
for ASME Code Class 1, 2 and 3 Pumps and Valves

Alabama Power Company previously submitted Revision 0 of the subject Inservice Testing (IST) Program to the NRC by letters dated September 30 and November 20, 1987 and Revision 1 by letter dated March 17, 1988. By letters dated December 10, 1987 and March 30, 1988, the NRC granted interim approval for the relief requests submitted with Revisions 0 and 1, respectively, of the IST Program. Following implementation of the second ten-year interval IST Program on December 1, 1987, it has been determined that one additional relief request requiring NRC approval and two changes are needed. These have been incorporated into the enclosed IST Program, Revision 2. The enclosure cover sheet summarizes the changes.

The two changes involve revision of the technical requirements for pump testing. First, Revision 1 of the IST Program indicated that the diesel generator fuel oil transfer pump motor lubrication would be observed. Subsequently, it has been determined that both the motor and the pump contain sealed bearings and, therefore, neither pump nor motor lubricant level or pressure can be observed. Secondly, the basis for relief and alternative test requirements described in relief request PR-16 for measuring the discharge flow rate for these pumps has been revised. Based on the tests conducted to date, the allowable inservice test quantity ranges specified in Section XI, IWP-3100-2 have been determined to be impractical. As permitted by Section XI, IWP-3210, alternative ranges have been defined and are included in the alternate testing portion of the revised relief request.

Relief request PR-18 has been added to permit the use of a digital vibration monitor which utilizes an autoscaling feature for the performance of pump vibration monitoring. The ASME Code, Section XI, IWP-4120 requires that the full scale range of instruments used for inservice testing be three times the reference value or less. This requirement is inappropriate for this digital instrument, which automatically selects the appropriate decade range for the value being measured. The accuracy of the instrument

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meets the Code requirements in all ranges and, based on the preciseness of reading which can be obtained by using digital vice analog instrument readings, use of the digital vibration monitor is preferred.

It is respectfully requested that the relief requests included in Revision 2 of the IST Program be granted by March 7, 1989. The required fees for review of the IST Program were submitted by letter dated May 27, 1987; therefore, no additional fees are included.

Respectfully Submitted

ALABAMA POWER COMPANY



W. G. Hairston, III

WGH/STB:pr-8.29

Enclosure

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Commitment Tracking System (2)
FNP Document Control
File: K-15.1

Summary of Revision 2 to the J. M. Farley Nuclear Plant - Unit 1
Second Ten Year Inservice Testing Program for ASME
Class 1, 2, and 3 Pumps and Valves

Page No./Description/Reason for Change

1. Page II-1-8, Notes: Deleted reference to Note 5 and added reference to new Note 7 per APC letter FNP-88-0502 dated 7/8/88 from D. N. Morey to J. D. Woodard. Lubricant levels for the pump and motor cannot be observed.
2. Page I-1-9, Note 7: Added Note 7 per APC letter FNP-88-0502 dated 7/8/88 from D. N. Morey to J. D. Woodard. New note required to reflect inability to observe the Diesel Gen. Fuel Oil Transfer Pump or motor lubricant level or pressure.
3. Page II-1-27, PR-16: Revised the "Basis for Relief" and "Alternate Testing" to modify the procedure for flow measurement and the allowable range for flow testing the Diesel Generator Fuel Oil Transfer Pumps per APC letter FNP-88-0502 dated 7/8/88 from D. N. Morey to J. D. Woodard. Changes required due to field experience.
4. Page II-1-29, PR-18: New Relief Request to provide for use of a digital vibration monitor per APC letter FNP-88-0502 dated 7/8/88 from D. N. Morey to J. D. Woodard. IWP-4120 of Section XI does not provide for use of an instrument which autoscales in decade ranges.

FNP Unit No. 1
 Pump Test List
 System: Diesel Generator Fuel Oil Transfer

FNP-1-M-042

QCY52

Pump I.D. Number	Class ISI	Dwg./Sheet Number	Coordi- nates	Pump Descriptions	Measured Parameters and Frequency								Relief Req.	Notes
					Pi (psig)	Po (psig)	dP (psi)	Q (gpm)	V (mil)	T (°F)	LL (NA)	N (rpm)		
P501A-A	3	D-170060 D-351132	G-3 G-3	D.G. Fuel Oil Transfer	-	-	-	Q	Q	N/A	-	N/A	PR-16 PR-17	1,4,6,7
P501B-B	3	D-170060 D-351132	G-2 G-2	D.G. Fuel Oil Transfer	-	-	-	Q	Q	N/A	-	N/A	PR-16 PR-17	1,4,6,7
P502A-A	3	D-170060 D-351132	G-10 G-10	D.G. Fuel Oil Transfer	-	-	-	Q	Q	N/A	-	N/A	PR-16 PR-17	1,4,6,7
P502B-B	3	D-170060 D-351132	G-9 G-9	D.G. Fuel Oil Transfer	-	-	-	Q	Q	N/A	-	N/A	PR-16 PR-17	1,4,6,7
P503A-A	3	D-170060 D-351132	G-5 G-5	D.G. Fuel Oil Transfer	-	-	-	Q	Q	N/A	-	N/A	PR-16 PR-17	1,4,6,7
P503B-B	3	D-170060 D-351132	G-4 G-5	D.G. Fuel Oil Transfer	-	-	-	Q	Q	N/A	-	N/A	PR-16 PR-17	1,4,6,7
P504A-A	3	D-170060 D-351132	G-12 G-12	D.G. Fuel Oil Transfer	-	-	-	Q	Q	N/A	-	N/A	PR-16 PR-17	1,4,6,7
P504B-B	3	D-170060 D-351132	G-11 G-11	D.G. Fuel Oil Transfer	-	-	-	Q	Q	N/A	-	N/A	PR-16 PR-17	1,4,6,7

PUMP TEST LIST NOTES

ASME Class 1, 2, and 3

The Pump Test List identifies the test parameters to be measured or observed, and the test frequencies. Notes 1 through 7 refer to amplifications of the Code requirements and are further discussed below:

1. On a pump with constant speed drive, speed is not measured, since the test will be performed at nominal motor nameplate speed, as required by Section XI, IWP-3100.
2. Quarterly testing of the containment spray pumps is performed using pump recirculation flow through a small-diameter recirculation line. A full-flow test will be performed at refueling by installing spool pieces and performing a full-flow test through the test line to the containment refueling cavity.
3. Inlet pressure is to be calculated from the inlet liquid level.
4. Bearing temperature measurement is not required (IWP-4310), since bearings are in the pump fluid flow path, such that they are completely immersed in and lubricated by the pumped fluid.
5. Pump lubricant level or pressure is not observed because of bearing lubrication design. Pump motor lubrication is observed in lieu of pump lubricant level or pressure.
6. Flow rate will be measured during diesel generator testing by measuring increase in day tank level versus time when the transfer pumps are in operation. Duration of test will be limited to the time it takes to replenish day tank level.
7. Neither pump nor motor lubricant level or pressure can be observed since the pump and motor contain sealed bearings.

PUMP RELIEF REQUEST

PR-16

System: Diesel Generators Fuel Oil Transfer

Pump: P501A-A, P501B-B, P502A-A, P502B-B,
P503A-A, P503B-B, P504A-A, P504B-B

Class: 3

Function: Transfer diesel generator fuel oil from the storage tanks to the diesel generator day tanks.

Test Requirement: Measure pump test inlet pressure, differential pressure and flow rate in accordance with the requirements of IWP-3100 and pump test duration requirements of IWP-3500.

Basis for Relief: The diesel generator fuel oil transfer pumps are located inside the storage tank with the pump discharge plenum and motor bolted to a flange on top of the tank. None of the pumps have installed instrumentation to measure either flow or discharge pressure. The only possible flow measurement is by measuring change in day tank level over time. The 4075 K.W. Diesel Generators have, by design, a maximum fuel consumption of 5.6 gpm and the 2850 K.W. units have a fuel consumption of 4.2 gpm. Plant procedures require that day tank level be maintained approximately 80 percent full. To comply with the Code requirement to run the pumps for five minutes prior to taking test measurements would require draining the day tanks below a safe operating level.

Alternate Testing: Pump test flow rate will be obtained by measuring a change in day tank level over time. A day tank level change of approximately 10 percent shall be timed and the flow rate determined from tank curves. An Alert Range of +6% and a Required Action Range of +10% shall be applied as provided by IWP-3210 and clarified by Code Interpretation XI-1-79-19. Also, flow rates of 5.6 gal./min. for the P501 A/B and P502 A/B pumps and 4.2 gal./min. for the P503 A/B and P504 A/B pumps will be applied as an absolute minimum.

PUMP RELIEF REQUEST

PR-18

System: All

Pump: All

Class: 2, 3

Function: Various

Test Requirement: IWP-4120 requires that the full scale range of each instrument be no more than three times the reference value.

Basis for Relief: FNP uses an IRD Model 88 for monitoring pump vibrations. The IRD Model 818 is a microprocessor controlled digital vibration monitor. When used in the English measurement mode the instrument autoscales in decade ranges. The requirement of IWP-4120 is not appropriate for vibrational measurement using this type of instrument. The accuracy of the instrument is +5% over all ranges. The IRD provides a digital display of vibration measurement to three (3) decimal places. This instrument provides significantly higher accuracy than an analog amplitude meter which is read visually and subject to human error and parallax. This problem is recognized in An American National Standard Inservice Testing Of Pumps, OM-6-7/15/87 (draft Rev. 11), paragraph 4612(c).

Alternate Testing: The autoscaling digital vibration monitor will be used for Code required pump vibration measurements.