

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

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 FACIL: 50-250 Turkey Point Plant, Unit 3, Florida Power and Light C 05000250
 50-251 Turkey Point Plant, Unit 4, Florida Power and Light C 05000251
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 Document Control Branch (Document Control Desk)

SUBJECT: Informs of rev to inservice test program to provide for
 testing certain safety injection valves at cold shutdown
 when RCS depressurized & vented & during each refueling
 outage. Revised relief request Bases 3, 4 & 8 encl.

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 TITLE: OR Submittal: Inservice Inspection/Testing

NOTES:

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	McDONALD, D	1 1		
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	ARM/DAF/LFMB	1 0	NRR/DEST/MEB	1 1
	NRR/DEST/MTB	1 1	NRR/PMAS/ILRB	1 1
	OGC/HDS2	1 0	<u>REG FILE</u> 01	1 1
	RES/DE/EIB	1 1		
EXTERNAL:	LPDR	1 1	NRC PDR	1 1
	NSIC	1 1		

$\mathcal{H}_1 = \{ \mathbf{h}_1, \mathbf{h}_2, \dots, \mathbf{h}_M \}$ and $\mathcal{H}_2 = \{ \mathbf{h}_{M+1}, \mathbf{h}_{M+2}, \dots, \mathbf{h}_{M+N} \}$ are the two sets of hypotheses. The test statistic $T(\mathbf{y})$ is a function of the observed data \mathbf{y} . The decision rule is to choose \mathcal{H}_1 if $T(\mathbf{y}) \leq \tau$ and \mathcal{H}_2 otherwise, where τ is the threshold. The probability of detection P_D and the probability of false alarm P_{FA} are defined as follows:

$$P_D = \Pr(T(\mathbf{y}) \leq \tau | \mathbf{h} \in \mathcal{H}_1)$$

$$P_{FA} = \Pr(T(\mathbf{y}) \leq \tau | \mathbf{h} \in \mathcal{H}_2)$$
 The Neyman-Pearson (NP) lemma states that the NP test is the most powerful invariant unbiased test. The NP test is given by:

$$T(\mathbf{y}) = \ln \left(\frac{p(\mathbf{y} | \mathcal{H}_1)}{p(\mathbf{y} | \mathcal{H}_2)} \right)$$
 where $p(\mathbf{y} | \mathcal{H}_1)$ and $p(\mathbf{y} | \mathcal{H}_2)$ are the likelihood functions under \mathcal{H}_1 and \mathcal{H}_2 , respectively. The NP test is the most powerful invariant unbiased test. The NP test is given by:

$$T(\mathbf{y}) = \ln \left(\frac{p(\mathbf{y} | \mathcal{H}_1)}{p(\mathbf{y} | \mathcal{H}_2)} \right)$$
 where $p(\mathbf{y} | \mathcal{H}_1)$ and $p(\mathbf{y} | \mathcal{H}_2)$ are the likelihood functions under \mathcal{H}_1 and \mathcal{H}_2 , respectively.

$\frac{f(x)}{g(x)} = \frac{\sum_{k=0}^n a_k x^k}{\sum_{k=0}^m b_k x^k}$

[illegible]

Figure 1. The effect of the concentration of the *Agrobacterium* suspension on the transformation efficiency of *Agrobacterium* strains. The *Agrobacterium* strains were grown in YEA medium for 24 h at 28°C. The cell concentration of the strains was adjusted to 10⁸ cells/ml. The cell suspension was then diluted with distilled water to the concentration of 10⁶ cells/ml. The cell suspension was then mixed with 100 µl of the plant tissue extract. The mixture was then incubated for 2 h at 28°C. The mixture was then transformed into the plant tissue. The transformation efficiency was determined by the number of transformants per 100 µl of the plant tissue extract. The results are shown in Table 1.

[illegible][illegible]

1. $\frac{1}{2}$ 2. $\frac{1}{2}$ 3. $\frac{1}{2}$ 4. $\frac{1}{2}$ 5. $\frac{1}{2}$



NOVEMBER 09 1987

L-87-447

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

Gentlemen:


Re: Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
Revision to Inservice Test Program for Pumps and Valves

On March 30, 1984, Florida Power & Light Company submitted a revision to the Inservice test (IST) Program for Pumps and Valves for Turkey Point Units 3 and 4 (FPL letter No. L-84-84). The NRC Staff is currently reviewing this revision.

A recent RHR pump problem revealed that exercising certain safety injection system valves, when the RCS is pressurized, could result in transient conditions which could exceed the limits of 10 CFR 50 Appendix G. This was discussed in a conference call on October 19, 1987 between NRC staff and FPL staff personnel. Accordingly, we have revised the Turkey Point Unit Nos. 3 and 4 Inservice Test Program to provide for testing certain safety injection valves at cold shutdown when the RCS is depressurized and vented and during each refueling outage. Attached are revised Safety Injection System Relief Request Bases Nos. 3, 4 and 8. The attached pages supersede the same numbered pages included in our March 30, 1984 submittal.

If there should be any questions, please contact us.

Sincerely,


C. O. Woody
Group Vice President
Nuclear Energy

Attachment.

COW/TCG/gp

cc: Dr. J. Nelson Grace, Regional Administrator, Region II, USNRC
Senior Resident Inspector, USNRC, Turkey Point Plant
Mr. Herbert C. Rockhold, EG&G Idaho, Inc.

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RELIEF REQUEST BASIS

SYSTEM: Safety Injection

3. Valve: MOV--863A and MOV--863B
Category: B
Class: 2

Function: Provides the flow path to the alternate header to the Reactor Coolant System from the Low Pressure Safety Injection System. Also, provides the flow path to the High Pressure Safety Injection System during the recirculation mode.

Test Requirement: IWV-3410

Basis for Relief: The failure of either of these valves in the open position, by testing during plant operation, would result in diverting flow from the reactor core in the event of a safety injection signal.

Alternate Testing: These valves will be tested during cold shutdown, when the RCS is depressurized and vented and during each refueling outage.

4. Valve: MOV--872
Category: A
Class: 2

Function: Provides the alternate flow path from the Low Pressure Safety Injection System to the Reactor Coolant System.

Test Requirement: IWV-3410

Basis for Relief: The failure of this valve in the non-closed position, by testing during plant operation, renders high pressure long term Safety Injection System recirculation unavailable.

Alternate Testing: This valve will be tested during cold shutdown, when the RCS is depressurized and vented and during each refueling outage.

RELIEF REQUEST BASIS

SYSTEM: Safety Injection

7. Valve: *-876A, *-876C and *-876B
Category: C
Class: 1

Function: Prevents reverse flow from the Accumulator Safety Injection System and the High Pressure Safety Injection System to the Low Pressure Safety Injection System.

Test Requirement: IWV-3520

Basis for Relief: These valves cannot be tested during operation because the Low Pressure Safety Injection pumps do not develop sufficient discharge head to establish a flow path to the Reactor Coolant System.

Alternate Testing: These valves will be tested during cold shutdowns.

8. Valve: *-876D and *-876E
Category: AC
Class: 1

Function: Prevents reverse flow from the Accumulator Safety Injection System and the High Pressure Safety Injection System to the Low Pressure Safety Injection System alternate flow path.

Test Requirement: IWV-3520

Basis for Relief: These valves cannot be tested during plant operation because the Low Pressure Safety Injection pumps do not develop sufficient discharge head to establish a flow path to the Reactor Coolant System.

Alternate Testing: These valves will be tested during cold shutdown, when the RCS is depressurized and vented and during each refueling outage.

