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SUBJECT: Forwards "Second 10-Yr Inservice Insp Interval Inservice Testing Program...," per GL 89-04. SCC RPO

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FPL

P.O. Box 14000, Juno Beach, FL 33408-0420

OCTOBER 3 1989

L-89-358

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
NRC Generic Letter 89-04 "Guidance On
Developing Acceptable Inservice Testing Programs"

Generic Letter 89-04 "Guidance on Developing Acceptable Inservice Testing Programs," issued by the NRC on April 3, 1989, requested that licensees (1) review their most recently submitted IST programs and implementing procedures against the positions delineated in Attachment 1 of the generic letter, and (2) within 6 months of the date of the letter confirm in writing their conformance with the stated positions. In cases where conformance with the stated positions would result in equipment modifications, the licensee should provide in his confirmation letter a schedule for completing the required modifications.

Florida Power & Light Company (FPL) has completed its evaluation of the Turkey Point - Units 3 and 4 Inservice Testing (IST) Program and implementing procedures with respect to compliance with the positions delineated in the generic letter. Attachment 1 to this letter is a summary of FPL's response. In several instances FPL has evaluated the NRC position and has determined that full compliance is not practical. For those cases, alternative proposals are provided.

Accordingly, pursuant to 10 CFR 50.55a(g)(5)(iii), Florida Power & Light Company requests relief from these requirements and certain other ASME Code Requirements. Attachment 2 is provided as a summary of all relief requests related to the Program. These relief requests are included in the revised IST Program Plan, Attachment 3. As indicated in the summary, in accordance with Paragraph B of the Generic Letter, FPL considers those relief requests not specifically addressing the positions of the Generic Letter and submitted prior to April 3, 1989 to be approved. In addition, relief requests needing approval for the timely implementation of the revised Program are so indicated.

As a result of evaluations in response to the generic letter, it is estimated that virtually all of the existing Turkey Point IST Program-related surveillance test procedures will require revision, and several additional (new) procedures will require development. This represents a significant effort in view of the ongoing general procedure upgrade and the Unit 3 refueling outage to begin in February, 1990. Based on current projections, revised testing procedures reflecting the requirements of the positions outlined in the generic letter will be implemented such that tests performed after July 1, 1990 will conform to the specified requirements.

Testing required to be performed during a refueling outage will be initiated during the next refueling outages scheduled to commence after July 1, 1990.

The acceptance criteria for the limiting values of full-stroke times for all power-operated valves in the Program that require stroke time measurements will be reviewed per Position 5 and the implementing test procedures will be revised, as required, such that any testing performed after July 1, 1990 will conform to the specified requirements.

The testing requirements of the revised Program will be fully implemented by July 1, 1990 except for those related to plant modifications where the compliance date is provided in the specific related request for relief.

Should there be any questions, please contact us.

Very truly yours,

J. H. Goldberg

J. H. Goldberg
Executive Vice President

JHG/TCG/gp

cc: Stewart D. Ebneter, Regional Administrator, Region II, USNRC
Senior Resident Inspector, USNRC, Turkey Point Plant

ATTACHMENT 1

RESPONSE TO POSITIONS OF NRC GENERIC LETTER 89-04

Position 1 - Full Flow Testing of Check Valves

A check valve's full-stroke to the open position may be verified by passing the maximum required accident condition flow through the valve. Any flowrate less than this will be considered a partial-stroke exercise. A valid full-stroke exercise by flow requires that the flow through the valve be known. Knowledge of only the total flow through multiple parallel lines does not provide verification of flowrates through the individual valves and is not a valid full-stroke exercise.

Response: For those cases where FPL is performing a full-stroke exercise of check valves using system flow, the flowrate through the subject valve will be measured or derived by physical measurement with an acceptance criteria that is equivalent to the maximum required accident condition flow through the valve. Where current procedures do not satisfy this requirement appropriate revisions or new procedures will be initiated.

Position 1a - Alternative to Full Flow Testing of Check Valves

Where full flow testing of a check valve, as described above, is impractical, it may be possible to qualify other techniques to confirm that a valve is exercised to the position required to perform its safety function. To substantiate the acceptability of any alternative technique for meeting the Code requirements, licensees must, as a minimum, address and document the following in the IST Program:

1. The impracticality of performing a full flow test;

2. A description of the alternate technique and a summary of the respective implementing procedures;

3. A description of the method and results of the qualification program for the alternative technique;

4. A description of the instrumentation used and the maintenance and calibration of the instrumentation;

5. A description of the basis used to verify that baseline data has been generated when the valve is known to be in good working order;

6. A description of the basis for the acceptance criteria for the alternative testing and a description of corrective actions to be taken when the acceptance criteria are not met.

Response: There are several instances where FPL has determined that full flow testing of check valves as described in Position 1 is not practical and valve disassembly and inspection (Position 2) may also be impractical. In these cases, FPL may investigate alternate testing or inspection techniques that can effectively detect significant component degradation and provide the documentation and analysis of the position outlined above. Such methods may include state-of-the-art electronic non-intrusive sensors, radiology, or remote visual inspection. The specific testing and inspection documentation will be provided in the IST Program Plan when available.

Specifically, in the case of testing the safety injection system high head hot leg injection check valves, disassembly and inspection of these valves would be extremely burdensome, time consuming, and result in considerable hardship (eg. excessive plant downtime, cost, and personnel radiation exposures) without any commensurate gain in plant safety or reliability.

Position 2 - Alternative to Full Flow Testing of Check Valves

As an acceptable alternate to full flow testing as described in Position 1, above, the NRC staff position is that valve disassembly and inspection can be used as a positive means of determining that a valve's disk will full stroke exercise open or of verifying closure capability, as permitted by IWV-3522. If possible, partial valve stroking quarterly or during cold shutdowns, or after reassembly must be performed.

Response: Where FPL has determined that full flow testing of check valves as described in Position 1 is not practical, valve disassembly and inspection will be performed in lieu of flow testing along with partial valve stroking periodically and following reassembly, when practical. The specific testing and inspection plan is provided in the most recent revision to the IST Program Plan. Where current procedures do not satisfy this requirement appropriate revisions or new procedures will be initiated.

Position 2a. - Inspection Procedure

During valve testing by disassembly, the valve internals should be visually inspected for worn or corroded parts, and the valve disk should be manually exercised.

Response: During valve testing by disassembly, valve internals will be inspected and exercised per the above guidelines. Appropriate acceptance criteria will be applied to assess valve operability.

Position 2b. - Frequency of Disassembly

Valve disassembly and inspection may be performed during reactor refueling outages. Since this frequency differs from the Code-required frequency, this deviation must be specifically noted in the IST Program.

Response: Where specified in the revised IST Program Plan, valve disassembly and inspection will be performed during reactor refueling outages or other convenient times based on the fuel cycle duration. The revised Program Plan includes requests for relief whenever this option is utilized.

Position 2c. - Sampling Inspection Plans

Where it is determined that it is burdensome to disassemble and inspect all applicable valves each refueling outage, a sample disassembly and inspection plan for groups of identical valves in similar applications may be employed. Guidelines for such plans are as follows:

The sample disassembly and inspection program groups similar valves and tests one (1) valve in each group during each refueling outage. Every valve in a group shall be the same design (manufacturer, size, model, and materials of construction) and have the same orientation. During valve disassembly, it must be verified that the valve is capable of full stroking by manually exercising and that the internals of the valve are structurally sound (no loose or corroded parts). A different valve of each group is required to be disassembled, inspected, and manually full-stroke exercised at each successive refueling outage until the entire group has been tested. If a disassembled valve is not capable of being full stroke exercised or there is binding or failure of valve internals, the remaining valves in that group must also be disassembled, inspected, and manually full-stroke exercised during the same outage. Following this, the

original sequence of inspection must be repeated unless extension of the inspection interval can be justified.

When disassembly/inspection data for a valve group show a greater than 25 percent failure rate, a determination should be made as to whether the group size should be decreased or more valves from the group disassembled during each refueling outage.

Extension of the disassembly/inspection interval to one valve every other interval, expansion of the group size above four valves, or other changes that would reduce the inspection interval for a valve to greater than 6 years should only be considered in cases of extreme hardship where the extension is supported by actual in-plant data from previous testing. In order to support a frequency extension to longer than 6 years the following information should be developed:

a. A documented report detailing the disassembly and inspection of each valve in the valve grouping, the condition of each valve, and the valve's capability to be full-stroked.

b. A review of industry experience regarding the same type of valve used in similar service.

c. A review of the installation of each valve addressing the "EPRI Applications Guidelines for Check Valves in Nuclear Power Plants" for problematic locations.

Response: There are several instances where like valves in similar applications are grouped as described above. In those cases where FPL has determined that utilization of this option is warranted, then the guidelines set forth above will be followed to the extent practical.

There are, however, several cases where FPL considers the application of this schedule as extremely burdensome and is proposing alternative approaches. Specifically, for the valves discussed below, FPL agrees that, in addition to the normal system flow testing (partial-stroke), at least once during each 10-year inspection interval each of the subject valves will be disassembled, inspected, and manually exercised to verify operability.

High/Low-Head Cold Leg Injection (*-875 A thru C)

Based on the design full-flow capacity of these valves being a function of the discharge flowrate from each related SIS accumulator, there is no practical means of

testing these valves so as to satisfy the requirements of Position 1. In the case of *-875A, the test flowrate is considerable being that equal to two (2) RHR pumps (approx. 6000 gpm) and, in the case of *-875 B&C, the test flowrate is the same but in a parallel, non-isolable, arrangement. Disassembly of these valves meeting the explicit requirements of Position 2 would necessitate a full core offload and drain-down of the reactor vessel during every reactor refueling.

All three of these valves in Unit 4 were disassembled and inspected during this past year and, after approximately 15 years of plant operation, they were found to be fully operable and in excellent condition. This inspection resulted in 20.38 man-rem for these three valves.

During cold shutdowns and each refueling outage, each of these valves is leaktested. If a valve were severely damaged to the extent that its operability related to the capability to pass adequate flow was impaired, it is highly unlikely that a successful leaktest could be performed.

High-Head Hot Leg Injection (*-874 A&B)

These valves are full-flow tested in parallel non-isolable flowpaths which clearly does not satisfy the requirement of flow measurement through each individual valve. Disassembly of these valves requires core offload and removal of a seal weld on each valve bonnet. Due to metallurgical considerations, the number of such inspections is limited, after which the complete valve must be replaced. During cold shutdowns and each refueling outage, each of these valves is leaktested. If a valve were severely damaged to the extent that its operability related to the capability to pass adequate flow was impaired, it is highly unlikely that a successful leaktest could be performed.

Earlier this year, the valves were replaced in Unit 4. It should be noted that this effort resulted in a total worker exposure of 6.265 man-rem.

SIS Accumulator Discharge (*-875 D thru F)

Based on the design full-flow capacity of these valves being a function of the discharge flowrate from each related SIS accumulator, there is no practical means of testing these valves so as to satisfy the requirements of Position 1. In fact, these valves essentially see little or no actual flow throughout their lifetime.

During refueling outages, each of these valves is partially stroked to the open position, then subjected to a leak test. If a valve were severely damaged to the extent that its operability related to the capability to pass flow were impaired, it is highly unlikely that a successful leaktest could be performed.

Disassembly of these valves meeting the explicit requirements of Position 2 would necessitate a full core offload and drain-down of the reactor vessel during every reactor refueling.

All three of these valves in Unit 4 were disassembled and inspected during the 1988 refueling outage and, after approximately 15 years of plant operation, they were found to be fully operable and in excellent condition. This inspection resulted in a total of 2.5 man-rem for these three valves.

Low Head Injection (*-876 B thru E)

These valves are full-flow tested in parallel non-isolable flowpaths which clearly does not satisfy the requirement of flow measurement through each individual valve. Disassembly of these valves requires core offload. During cold shutdowns and each refueling, each of these valves is leaktested. If a valve were severely damaged to the extent that its operability related to the capability to pass flow, it is highly unlikely that a successful leaktest could be performed. All four of these valves in Unit 4 were disassembled and inspected during the past year and, after approximately 15 years of plant operation, they were found to be fully operable and in excellent condition.

Disassembly of these valves meeting the explicit requirements of Position 2 would necessitate a full core offload and draindown of the reactor vessel during every reactor refueling.

Position 3 - Backflow Testing of Check Valves

Check valves that perform a safety function in the closed position to prevent reverse flow should be tested in a manner that proves that the disc travels to the seat promptly on cessation or reversal of flow. Verification that a Category C valve is in the closed position can be done by visual observation, by an electrical signal initiated by a position-indicating device, by observation of appropriate pressure indication in the system, by leak testing, or by other positive means.

Response: The revised IST Program Plan identifies all testing that is required (open or closed) for each check valve in the Program. For those cases where additional valves have been added to the revised Program or where procedures are inadequate, procedures will be revised or developed to demonstrate that the valve is properly performing its safety function in the closed direction or that the valve is in the closed position.

Position 4 - Pressure Isolation Valves (PIV's)

All PIV's listed in the plant Technical Specifications should be listed in the IST Program as Category A or A/C valves and the Technical Specification requirements referenced in the IST Program.

All Event V valves shall be individually leak rate tested and evaluated against the leakage limits specified in the Technical Specifications.

Response: FPL complies with this position.

Position 5 - Limiting Values of Full-Stroke Times For Power-Operated Valves

The following guidelines are established regarding limiting values of full-stroke time for power-operated valves:

a. The limiting value of full-stroke time should be based on the valve reference or average stroke time when it is known to be in good condition and operating properly.

b. The limiting value should be a reasonable deviation from the reference stroke time based on valve size, valve type, and actuator type.

c. The allowable deviation in stroke time should not be so restrictive that it results in a valve being declared inoperable due to reasonable stroke time variations.

d. The allowable deviation used to establish the limit should be such that corrective action would be taken for a valve that may not perform its intended function.

e. In no cases shall the limiting value of full-stroke time exceed that required by the Technical Specifications or Plant Safety Analysis.

Response: FPL is reviewing the acceptance criteria for the limiting values of full-stroke times for all power-operated valves in the Program that require stroke time measurements with regards to the guidelines presented above. Limiting values of full-stroke times and the implementing test procedures will be revised accordingly.

Position 6 - Stroke Time Measurements for Rapid-Acting Valves

Power-operated valves with normal stroke times of 2 seconds or less are referred to by the staff as "rapid-acting valves." Relief may be granted from the requirements of Section XI, Paragraph IWV-3417(a) for these valves provided the licensee assigns a maximum limiting value of full-stroke time of 2 seconds to these valves and, upon exceeding this limit, declares the valve inoperable and takes corrective action in accordance with IWV-3417(b). Since this is a deviation from Code requirements, it should be specifically documented in the IST Program.

Response: FPL will comply with this position as per Relief Request VR-23.

Position 7 - Testing Individual Control Rod Scram Valves In Boiling Water Reactors (BWR's)

Response: This is not applicable to Turkey Point - Units 3&4.

Position 8 - Starting Point For Time Period In TS ACTION Statements

When test data is recognized as being within the Required Action Range for pumps or exceeding the limiting value of full-stroke time for valves, the associated component must be declared inoperable and the Technical Specification ACTION time clock must be started.

Response: FPL complies with this position.

Position 9 - Pump Testing Using Minimum-Flow Return Line With Or Without Flow Measuring Devices

In cases where flow can only be established through a non-instrumented minimum flow path during quarterly pump testing and a path exists at cold shutdowns or refueling outages allowing test performance under full or substantial flow conditions, the increased interval is acceptable provided that pump differential pressure, flowrate, and bearing vibration measurements are taken during this testing. During quarterly minimum flow testing measurements of differential pressure and vibration must also be taken. Data from both of these testing methods should be evaluated per the Code. Since this is a deviation from Code requirements, it should be specifically documented in the IST Program.

In cases where only the minimum flow return line is available for pump testing and no mechanism exists for testing at full or substantial flow where flowrates can be measured, then flow instrumentation which meets the requirements of IWP-4110 and 4120 must be installed in the mini-flow test circuit.

Licensees should ensure that if pumps are tested in a low-flow condition, the flow is sufficient to prevent damage to the pump.

Response: Per the revised IST Program, FPL will comply with this position. This position has also been applied to testing situations where minimum flow circuit instrumentation exists but is inadequate to accurately determine flowrate as required by the Code.

Position 10 - Containment Isolation Valve Testing

All containment isolation valves (CIV's) included in the Appendix J Program should be included in the IST Program as Category A or A/C valves.

The licensee must comply with the Analysis of Leakage Rates and Corrective Action requirements of Paragraphs IWV-3426 and 3427(a), however, the requirements of IWV-3427(b) need not be applied. Since this is a deviation from Code requirements, it should be specifically documented in the IST Program.

Response: All valves designated as containment isolation valves at Turkey Point are included in the IST Program as Category A or A/C valves.

FPL will comply with the requirements of IWV-3426 and 3427(a) and (b).

Position 11 - IST Program Scope

Licensees should review their IST Programs to ensure that the scope of the test program is adequate and accurately reflects the requirements of Subsections IWP-1100 and IWV-1100.

Response: FPL has conducted an extensive review of plant systems and the IST Program with respect to compliance with the requirements of IWP-1100 and IWV-1100. As a result of this review and other aspects of this Generic Letter, the Program Plan has been revised to ensure that the scope is adequate and consistent with respect to the components subject to testing and that the individual testing and the documentation requirements are properly addressed. Accordingly, procedure revisions or new procedures will be implemented in those cases where current test procedures will not adequately implement the revised Program.

PUMP RELIEF REQUEST SUMMARY

No.	Pumps	Code Ref.	Previous. Relief/No.		Status	Reqd. By	Remarks
PR-1	Boric Acid	IWP-4600	YES	1	Preapproved Position 9	NA	Revised per Generic Letter 89-04
PR-2	Diesel FO	IWP-3500 IWP-4600	YES	4	Unreviewed	7/1/90	Relief Request is expanded
PR-3	Boric Acid Diesel FO	IWP-3300	YES	5	Approved	NA	
PR-4	Generic	IWP-3300 IWP-4310	NO	-	Unreviewed	7/1/90	
PR-5	Generic	IWP-4120	NO	-	Unreviewed	7/1/90	
PR-6	Intake Clg.	IWP-3300	YES	12	Approved	NA	
PR-7	Generic	IWP-3300	NO	-	Unreviewed	7/1/90	
PR-8	Cont. Spr.	IWP-3300	NO	-	Unreviewed	7/1/90	Satisfies Pos. 9 Modification Reqd.
PR-10	Charging	IWP-3300	NO	-	Unreviewed	7/1/90	
PR-11	Residual Ht. Removal	IWP-4120	NO	-	Unreviewed	7/1/90	

VALVE RELIEF REQUEST SUMMARY

No.	System/Valves	Code Ref.	Previous. Relief/No.	Status	Reqd. By	Remarks
VR-1	Breathing Air *-BA-201	IWV-3521	NO	Unreviewed	7/1/90	New Requirement
VR-2	Steam Generator CV-*-2816-2818 CV-*-2831-2833	IWV-3413	YES 4	Approved	NA	
VR-3	Reactor Coolant *-518	IWV-3521	NO	Unreviewed	7/1/90	
VR-4	Chem. Vol Cont. *-298 A thru C	IWV-3521	YES 13	Approved	NA	Test frequency 2-years vs. refueling
VR-5	Chem. Vol Cont. *-312 C	IWV-3521	YES 14	Approved	NA	Test frequency 2-years vs. refueling
VR-6	Chem. Vol. Cont. HCV-*-121	IWV-3413	NO -	Unreviewed	7/1/90	
VR-7	Generic	IWV-3412 IWV-3522	NO	Unreviewed	7/1/90	Agrees with current NRC policy re. cold Shutdown testing
VR-8	Safety Injection *-879 A thru D	IWV-3521	NO -	Unreviewed	7/1/90	
VR-9	Safety Injection *-890 A&B	IWV-3521	NO -	Unreviewed	7/1/90	

VALVE RELIEF REQUEST SUMMARY (cont.)

No.	System/Valves	Code Ref.	Previous. Relief/No.	Status	Reqd. By	Remarks
VR-10	Safety Injection *-873 A thru C	IWV-3521	YES 16	Approved	NA	
VR-11	Safety Injection *-874 A&B	IWV-3521	YES 15	Unreviewed	7/1/90	The original relief request did not satisfy Position 1
VR-12	Safety Injection *-875 A thru c	IWV-3521	YES 9	Unreviewed	7/1/90	
VR-13	Safety Injection *-875 D thru F	IWV-3521	YES 17	Unreviewed	7/1/90	
VR-14	Safety Injection *-876 B&C	IWV-3521	YES 7	Unreviewed	7/1/90	
VR-15	Safety Injection *-876 D&E	IWV-3521	YES 8	Unreviewed	7/1/90	
VR-16	Safety Injection *-2918 thru 2923	IWV-3521	YES 14	Preapproved Position 2	NA	Satisfies Pos. 2
VR-17	Safety Injection *-876 A	IWV-3521	NO	Unreviewed	7/1/90	
VR-18	Prim/Demin Water *-10-567	IWV-3521	NO	Unreviewed	7/1/90	

VALVE RELIEF REQUEST SUMMARY (cont.)

No.	System/Valves	Code Ref.	Previous. Relief/No.	Status	Reqd. By	Remarks
VR-19	Cont. Vent *-11-003	IWV-3521	YES 3	Approved	NA	Test frequency 2-years vs. refueling
VR-19	Cont. Vent *-40-205	IWV-3521	NO	Approved	NA	
VR-20	Inst. Air *-40-336	IWV-3521	YES 1	Approved	NA	Test frequency 2-years vs. refueling
VR-21	Generic Pressure Isol.	IWV-3427	NO	Unreviewed	7/1/90	
VR-22	Diesel Gen. CV-2046 A&B SV-2051 A&B SV-*-3522 A&B	IWV-3413	YES 1,2,&3	Approved	NA	
VR-23	Generic	IWV-3417	NO	Preapproved Position 6	NA	Satisfies Position 6
VR-24	Generic	IWV-3416	NO	Unreviewed	7/1/90	
VR-25	Primary Contmt. Various	IWV-3426	NO	Unreviewed	7/1/90	
VR-26	Instrument Air *-40-340A	IWV-3521	YES 1	Approved	NA	Test frequency 2-years vs. refueling
VR-27	Safety Injection	IWV-3521	NO -	Unreviewed	7/1/90	