



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

June 17, 1994

Docket No. 50-250

Mr. J. H. Goldberg
President - Nuclear Division
Florida Power and Light Company
P. O. Box 14000
Juno Beach, Florida 33408-0420

Dear Mr. Goldberg:

SUBJECT: TURKEY POINT NUCLEAR POWER STATION, UNIT 3 - REVIEW OF RESIDUAL
HEAT REMOVAL (RHR) FLAW INDICATIONS - TAC NO. M84743

As part of our review of your 10 CFR 50.59 Safety Evaluations, we performed a detailed appraisal of your assessment of the crack in RHR Check Valve 3-753. We conclude that the check valve can safely operate and you should continue to inspect the flaw at 60-month intervals.

In your interoffice correspondence dated March 3, 1992, you summarized your evaluation of the RHR system swing check valve 3-753A, which has a flaw indication at the disk seating surface. By letter dated September 14, 1993, you provided additional information justifying re-inspection at 60-month intervals.

Your stress analysis over-simplified the structural geometry of the check valve and the response of fluid temperature changes on parts of the structure while neglecting the effect of check valve slam. We recognize the complexity of the structure analyzed and believe the only comprehensive means of computing the stresses in the check valve would have been by application of finite element techniques. This would have determined the relative responses of different parts of the structure under pressure and thermal loading and the resulting interaction stresses at the crack front developed as a result of these loadings during the operating transients. We acknowledge that the material properties and critical stress intensity factors are conservative and may be used in critical flaw size and crack growth rate determination. We find that the critical flaw size is large in comparison with check valve dimensions and the growth of the flaw over the remaining lifetime will be small. Therefore, regardless of your over-simplification and neglect of check valve slam, we believe the check valve will be operable with the flaw.

We have reviewed your inspection schedule and found the first 60-month inspection in 1996 is consistent with IWB-2420. The next two 60-month intervals will occur beyond the recommended intervals of IWB-2420. However, since the projected crack growth is small (0.473 inches after 40 years), the critical flaw size is large, and the component is an ASME Code Class 2 valve, inspecting the flaw at 60-month intervals is acceptable. If any inspections

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indicate that the crack growth analysis is non-conservative, you should provide a revised analysis which addresses all uncertainties, prior to placing the valve in-service.

With respect to root cause of the crack, incomplete information exists and consideration of the root cause of the initial flaw may be of significance to the evaluation. For example, the welding process used in attaching the Stellite No. 6 strip to the check valve body may have changed the cast austenitic stainless steel material properties unfavorably and created an initial flaw. This possibility had not been discussed by APTECH in their reports. The root cause of the indicated flaw should be investigated and an assessment made of generic implications of the findings on other check valves of similar design and application.

In summary, we request that you (1) confirm your intent to inspect and assess the crack in 60-month intervals, reporting any non-conservative results to us; (2) determine the root cause of the initial flaw, if not already determined, and inform us of your conclusion; and (3) inform us of your assessment of the generic implications and inspection findings on other valves of similar design and application. We request that you provide a schedule and plan within 60 days to address these requests.

This request affects fewer than 10 respondents and, therefore, is not subject to Office of Management and Budget review under P.L. 96-511. If you need any additional information or have any questions, please call me at (301) 504-1481.

Sincerely,

(Original Signed By)

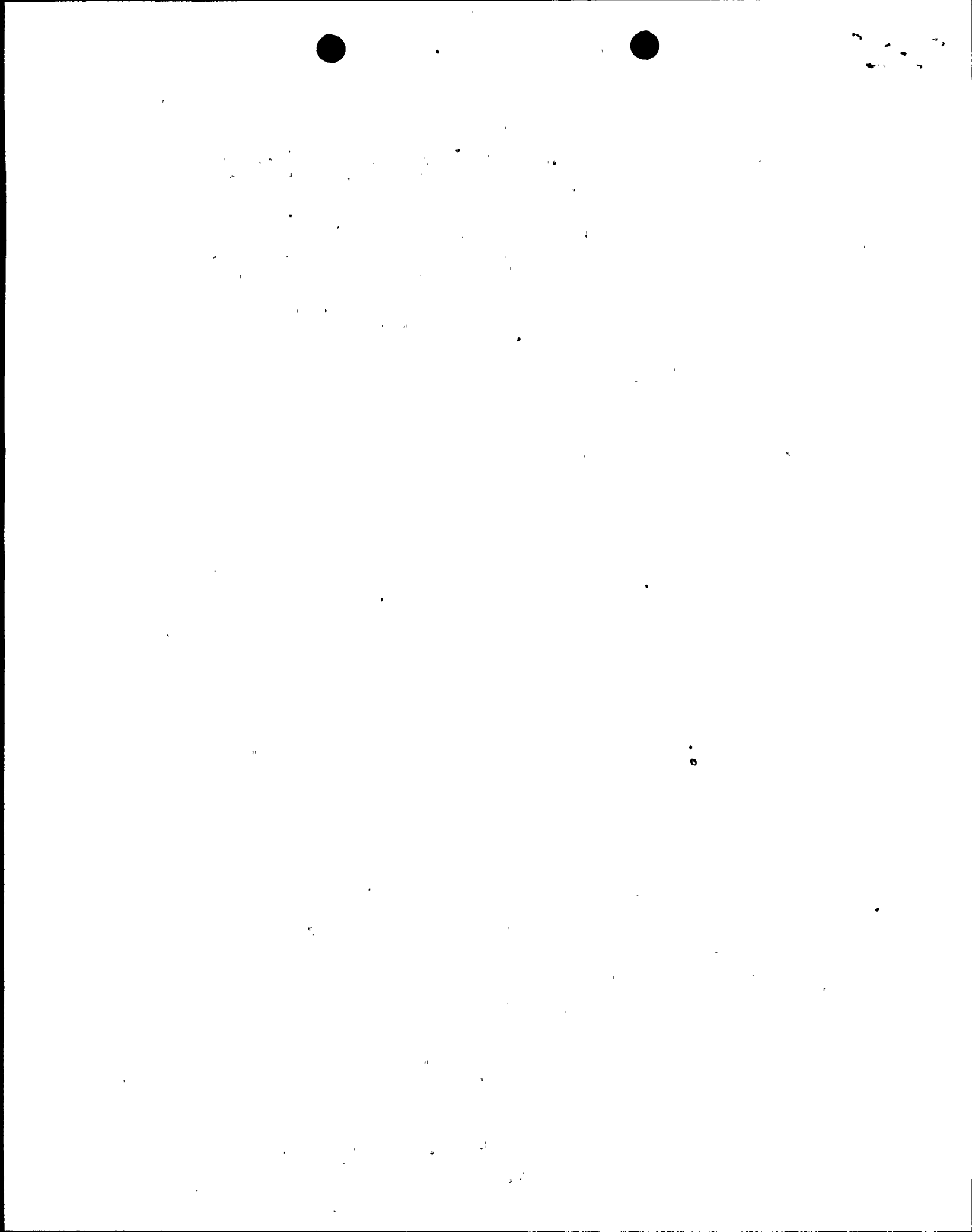
Richard P. Croteau, Project Manager
Project Directorate II-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

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Mr. J. H. Goldberg
Florida Power and Light Company

cc:
Harold F. Reis, Esquire
Newman and Holtzinger, P.C.
1615 L Street, N.W.
Washington, DC 20036

Jack Shreve, Public Counsel
Office of the Public Counsel
c/o The Florida Legislature
111 West Madison Avenue, Room 812
Tallahassee, Florida 32399-1400

John T. Butler, Esquire
Steel, Hector and Davis
4000 Southeast Financial Center
Miami, Florida 33131-2398

Mr. Thomas F. Plunkett, Site
Vice President
Turkey Point Nuclear Plant
Florida Power and Light Company
P.O. Box 029100
Miami, Florida 33102

Joaquin Avino
County Manager of Metropolitan
Dade County
111 NW 1st Street, 29th Floor
Miami, Florida 33128

Senior Resident Inspector
Turkey Point Nuclear Generating
Station
U.S. Nuclear Regulatory Commission
P.O. Box 1448
Homestead, Florida 33090

Mr. Bill Passeti
Office of Radiation Control
Department of Health and
Rehabilitative Services
1317 Winewood Blvd.
Tallahassee, Florida 32399-0700

Turkey Point Plant

Mr. Joe Myers, Director
Division of Emergency Preparedness
Department of Community Affairs
2740 Centerview Drive
Tallahassee, Florida 32399-2100

Regional Administrator,
Region II
U.S. Nuclear Regulatory Commission
101 Marietta Street, N.W. Suite 2900
Atlanta, Georgia 30323

Attorney General
Department of Legal Affairs
The Capitol
Tallahassee, Florida 32304

Plant Manager
Turkey Point Nuclear Plant
Florida Power and Light Company
P.O. Box 029100
Miami, Florida 33102

Mr. H. N. Paduano, Manager
Licensing & Special Projects
Florida Power and Light Company
P.O. Box 14000
Juno Beach, Florida 33408-0420

Mr. Edward J. Weinkam
Licensing Manager
Turkey Point Nuclear Plant
P.O. Box 4332
Princeton, Florida 33032-4332

Memorandum Dated June 17, 1994

Distribution

Docket File
NRC & Local PDRs
PDII-2 RF
S. Varga
G. Lainas
H. Berkow
R. Croteau
J. Strosnider
E. Tana
OGC
ACRS (10)
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B. Elliot

