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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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WOODY, C. O. Florida Power & Light Co.
RECIP. NAME RECIPIENT AFFILIATION
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SUBJECT: Advises that Westinghouse has informed util of input error where three high-head safety injection pumps assumed in large break LOCA analysis. Licensee evaluating design changes to mitigate increases in peak clad temps.

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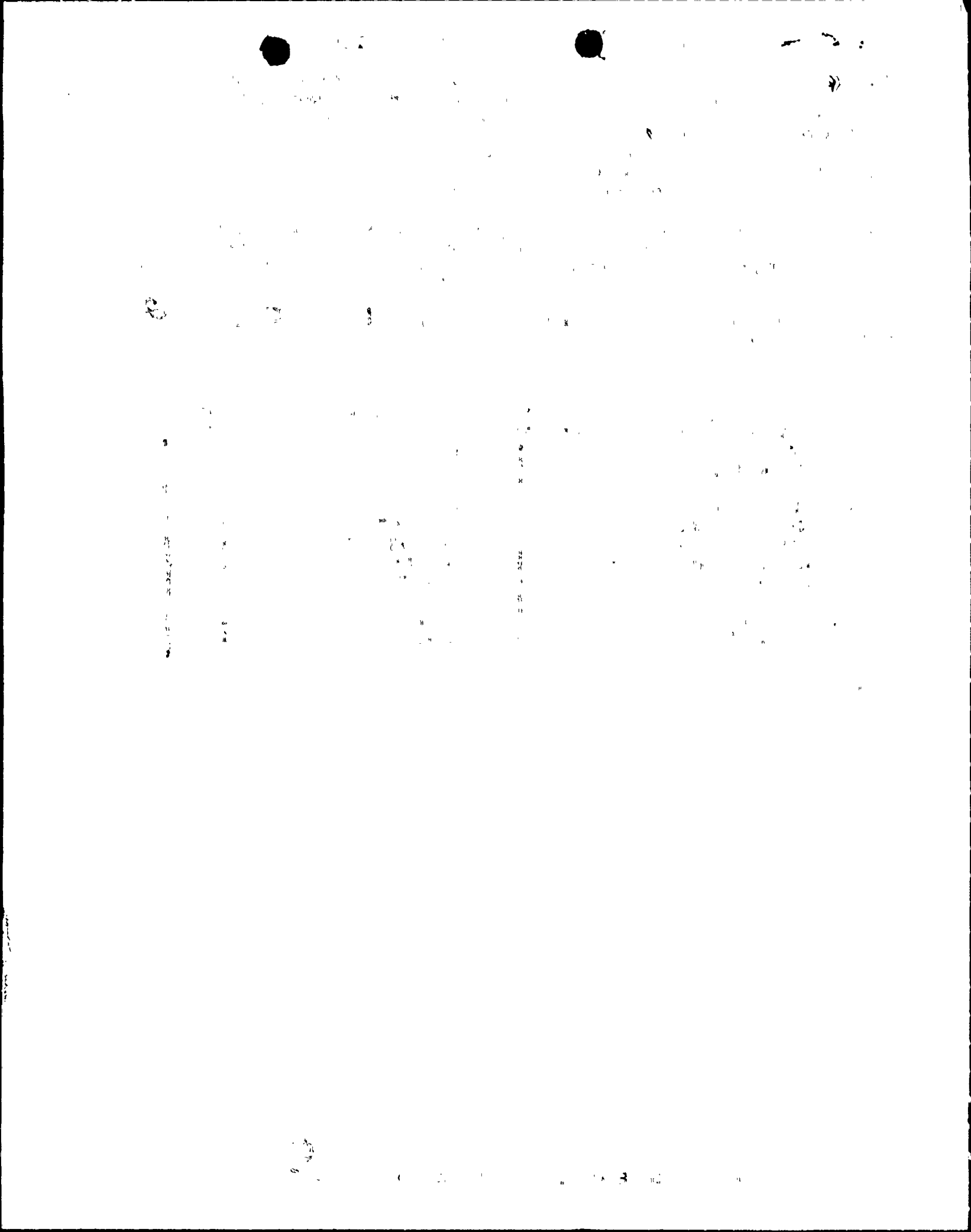

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AUGUST 20 1987

L-87-336

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
Large Break LOCA Analysis

By letter L-85-157 dated April 16, 1985, Florida Power & Light Company (FPL) reported a calculated peak clad temperature (PCT) of 2051°F in the event of a worst case large break LOCA transient. The calculation was found acceptable by the NRC in a safety evaluation issued on May 14, 1985. FPL has now completed its review of a recent Westinghouse evaluation of subsequent PCT changes resulting from non-conservatisms identified during the Turkey Point Plant design basis reconstitution effort. In accordance with 10 CFR 50, Appendix K, II.1, these changes are hereby reported.

Westinghouse has informed FPL of an input error where three high-head safety injection pumps had been assumed in the analysis instead of two. The corrected use of two pumps increased the PCT by 9°F to 2060°F. This change was reported to the NRC as Licensee Event Report (LER) 250-85-033.

While reviewing the design basis of the Emergency Core Cooling System (ECCS), a non-conservatism in the assumed containment spray flow rate was discovered. The analysis assumes a containment spray flow of 2900 gpm corresponding to a containment pressure of 60 psig. In actuality, the spray flow rate may increase to 3643 gpm while the containment pressure is nearly 0 psig in the beginning of the transient. This would cause additional heat removal from the containment, lower containment pressure, higher break flow and higher peak clad temperature. This non-conservatism was reported to the NRC as LER 250-87-14. Westinghouse has estimated a PCT increase of 15°F to a total of 2075°F due to the increased containment spray flow.

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Another non-conservatism was discovered relating to the low head safety injection pump flow rates assumed in the accident analysis; a minimum of 3600 gpm during the injection phase, and a maximum flow limit of 3750 gpm because of NPSH requirements during post-accident recirculation from the containment sump. These current upper and lower flow rate limitations do not provide a large enough band to allow the low head safety injection flow rate to be set with the required precision assuming the instrument inaccuracies associated with the instrumentation used to measure the pump flow. To broaden the band, the minimum flow rate was reduced to 3400 gpm. This reduced analysis flow value would result in an increase in PCT of 32°F, resulting in a revised PCT of 2107°F.

The revised PCT of 2107°F for the worst case large break LOCA transient correcting for the effects discussed herein is below the limit of 2200°F as per the acceptance criteria in 10 CFR 50.46. FPL is evaluating design changes to mitigate the increases in PCT.

If there are any questions, please call us.

Very truly yours,

C. O. Woody
Group Vice President
Nuclear Energy

COW/TCG/gp

cc: Dr. J. Nelson Grace, Regional Administrator, Region II, USNRC
Mr. D. R. Brewer, USNRC Senior Resident Inspector, Turkey Point Plant

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Docket file w/o encl.
PD22 Reading w/o encl.
D. Miller w/encl.
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August 19, 1987

DOCKET NO(S). 50-250 and 50-251
Mr. C. O. Woody
Group Vice President
Nucleaf Energy
Florida Power and Light Company
Post Office Box 14000
Juno Beach, Florida 33408
SUBJECT:
TURKEY POINT UNITS 3 AND 4

The following documents concerning our review of the subject facility are transmitted for your information.

- ☐ Notice of Receipt of Application, dated _____.
- ☐ Draft/Final Environmental Statement, dated _____.
- ☐ Notice of Availability of Draft/Final Environmental Statement, dated _____.
- ☐ Safety Evaluation Report, or Supplement No._____ dated _____.
- ☐ Environmental Assessment and Finding of No Significant Impact, dated _____.
- ☐ Notice of Consideration of Issuance of Facility Operating License or Amendment to Facility Operating License, dated _____.
- ☒ Bi-Weekly Notice; Applications and Amendments to Operating Licenses Involving No Significant Hazards Considerations, dated 8/12/87 [*see page(s)*] _____.
- ☐ Exemption, dated _____.
- ☐ Construction Permit No. CPPR-_____, Amendment No. _____ dated _____.
- ☐ Facility Operating License No. _____, Amendment No. _____ dated _____.
- ☐ Order Extending Construction Completion Date, dated _____.
- ☐ Monthly Operating Report for _____ transmitted by letter dated _____.
- ☐ Annual/Semi-Annual Report- _____ _____ transmitted by letter dated _____.

Division of Reactor Projects-I/II
Office of Nuclear Reactor Regulation

Enclosures:
As stated

cc: See next page

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