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SUBJECT: Updates response re Westinghouse SG mechanical tube plugs  
fabricated from thermally treated Alloy 600 material.

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**FPL**

**AUG 04 1995**

**L-95-212**

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

Re: Turkey Point Unit 3  
Docket Number 50-250  
Westinghouse Alloy 600  
Steam Generator Mechanical Tube Plugs

The purpose of this letter is to update Florida Power and Light's (FPL) response regarding Westinghouse steam generator mechanical tube plugs fabricated from thermally treated (TT) Alloy 600 material.

In a meeting on December 22, 1994, between the NRC, the Westinghouse Owner's Group (WOG) and industry representatives, recent operating experience affecting the predicted service life of Westinghouse steam generator mechanical tube plugs fabricated from TT Alloy 600 was discussed. The NRC concluded that the issue does not represent an immediate safety concern but requested that the industry take a proactive approach to resolving this issue. In response to this request, several items were identified by the WOG Issues Review Group to be addressed by each utility. FPL letter L-95-28, dated January 31, 1995, provided FPL's initial response for Turkey Point Units 3 and 4. This letter updates FPL's response for Turkey Point Unit 3, 30 days prior to the next refueling outage which is currently scheduled to start September 4, 1995.

FPL will notify the NRC of any changes in our response for Turkey Point Unit 4 in a separate letter a minimum of 30 days prior to the next Unit 4 outage, which is currently scheduled for March 1996.

Should there be any questions, please contact us.

Very truly yours,

T. F. Plunkett  
Vice President  
Turkey Point Plant

OIH

cc: Stewart D. Ebnetter, Regional Administrator, Region II, USNRC  
T. P. Johnson, Senior Resident Inspector, USNRC, Turkey  
Point Plant

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TURKEY POINT UNIT 3

WESTINGHOUSE ALLOY 600 THERMALLY TREATED STEAM GENERATOR  
MECHANICAL TUBE PLUGS

**BACKGROUND**

In a meeting on December 22, 1994 between the NRC, the Westinghouse Owner's Group (WOG) and industry representatives, recent operating experience affecting the predicted service life of Westinghouse steam generator mechanical tube plugs fabricated from thermally treated (TT) Alloy 600 was discussed. At that meeting the NRC requested that the industry take a proactive approach to resolving this issue. By letter OG-94-107, from Thomas V. Green, WOG Vice Chairman, to WOG Primary Representatives, dated December 30, 1994, the WOG Issues Review Group identified several items to be addressed by each utility in response to the NRC's request. By letter L-95-28, dated January 31, 1995, FPL provided its response to these items for Turkey Point Unit 3.

Subsequent to the above meetings and communications, additional field experience with TT Alloy 600 mechanical plugs resulted in a change in the corrosion algorithm used by Westinghouse to predict replacement years for TT Alloy 600 mechanical plugs manufactured by Westinghouse. These changes are summarized in Westinghouse document "Addendum 4 to Steam Generator Tube Plug Integrity Summary Report, May, 1995" (WCAP-12245, Rev. 3). This letter updates FPL's response for Turkey Point Unit 3 with respect to Addendum 4 to WCAP-12245, Rev. 3.

**ITEM 1**

Identify the number of Westinghouse mechanical plugs manufactured from TT Alloy 600 material present in your steam generators that have not been either changed out or repaired.

**FPL RESPONSE**

The number of Westinghouse mechanical plugs manufactured from TT Alloy 600 material currently installed in the Turkey Point Unit 3 steam generators remains unchanged from that documented by FPL letter L-95-28, dated January 31, 1995.

<u>STEAM GENERATOR</u>	<u>HOT LEG</u>	<u>COLD LEG</u>
3A	11	11
3B	5	9
3C	17	20

**ITEM 2**

Reaffirm that operation of your plant with identified plugs does not represent a safety issue.

**FPL RESPONSE**

The basis for safe operation remains unchanged from that documented by FPL letter L-95-28, dated January 31, 1995, and is restated herein. The basis for the Justification For Continued Operation (JCO) with TT Alloy 600 steam generator mechanical plugs is documented in WCAP 12244, "Steam Generator Tube Plug Integrity Summary Report," dated April 1989, and subsequent revisions. The JCO is based on the following factors:

- a) There is a low probability of a Plug Top Release (PTR) event.
- b) The population of tubes which may perforate as a result of plug top release is limited.
- c) Should perforation occur following PTR, the primary to secondary leakage consequences are limited.
- d) There is a very low likelihood that multiple plugs could be in a condition that would be capable of resulting in PTR.
- e) The plant Emergency Response Guidelines are adequate to bring the plant to safe shutdown following PTR.

All of the above factors are still applicable to Turkey Point Unit 3 and, therefore, the JCO is still valid. Additionally, since all of the subject tube plugs were installed pre-operational for manufacturing degraded tubes, they are not expected to result in primary to secondary leakage should plug cracking occur.

**ITEM 3**

A commitment to evaluate and assess the impact of the Addendum 3 to WCAP-12244, to be issued by Westinghouse by January 31, 1995, on your existing action plan for addressing mechanical plug corrosion provided to the NRC in response to NRC Bulletin 89-01 and its supplements.

**FPL RESPONSE**

FPL response as documented by FPL letter L-95-28, dated January 31, 1995, remains essentially unchanged and is updated herein for Turkey Point Unit 3 to include additional information received in Addendum 4 to WCAP-12245, Rev 3, issued May 1995. FPL has performed remote tube sheet visual inspections of all installed tube plugs, regardless of manufacture, at each refueling outage subsequent to the issuance of NRC Bulletin 89-01. At Turkey

Point Unit 3, these inspections have resulted in the removal and replacement of one suspect hot leg Westinghouse mechanical tube plug which was provided to Westinghouse for evaluation. The cause of leakage was concluded to be inadequate installation. In addition, steam generator tube inspections for Turkey Point Unit 3, performed during the 1994 refueling outage, did not identify any degraded tube plugs. The impact of Addendum 4 is assessed below for applicability at Turkey Point Unit 3.

1. All subject hot leg plugs which are classified Category 1 are scheduled to be removed and replaced during the next refueling outage which is currently scheduled to start September 4, 1995.
2. Three subject cold leg plugs (in steam generator 3C) which are classified Category 1 are scheduled to be repaired/replaced during the subsequent refueling outage which is currently scheduled for March 1997. These plugs are located in tubes that are not expected to experience perforation of the tube during plug top release. As allotted within Addendum 4, plant specific circumstances exist which support a one time deferral of remedial action during the next scheduled outage for these plugs. Specific circumstances include additional exposure burdens and schedule impact that would be incurred to repair/replace these plugs at the next scheduled outage.
3. All remaining subject tube plugs (hot leg or cold leg) classified Category 2 or 3 will be repaired/replaced during the scheduled refueling outages prior to the recommended date (12/31/2000).

#### ITEM 4

A commitment to issue to the NRC a schedule and revised action plan for your plant in addressing this issue 30 days prior to your next scheduled outage.

#### FPL RESPONSE

This letter provides FPL's revised action plan for Turkey Point Unit 3. The next scheduled refueling outage for Turkey Point Unit 3 is currently scheduled to start September 4, 1995.

