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MAY 04 1983

Docket Nos. 50-250
and 50-251

Dr. Robert E. Uhrig, Vice President
Advanced Systems and Technology
Florida Power and Light Company
Post Office Box 14000
Juno Beach, Florida 33408

Dear Dr. Uhrig:

SUBJECT: SITE VISIT AND OVERVIEW OF TURKEY POINT ALARA/RADIATION PROTECTION PROGRAM FOR STEAM GENERATOR REPLACEMENT

On March 29 and 30, 1983, members of the Radiological Assessment Branch, members of the Division of Fuel Cycle and Material Safety and personnell from Pacific Northwest Laboratory (PNL) visited the Turkey Point facility for an overview of the radiation protection and ALARA aspects of your steam generator replacement effort. The staff members would like to express their appreciation to the FP&L personnel who were extremely helpful and responsive during the visit.

The enclosed Trip Report provides details and observations of the staff during the site visit. The detailed information provided to our contractor, PNL, will be of assistance in performing a generic study on the radiological assessment of steam generator repair and replacement. Your cooperation and assistance is greatly appreciated.

Sincerely,

ORIGINAL SIGNED

Daniel G. McDonald, Project Manager
Operating Reactors Branch #1
Division of Licensing

Enclosure:
Trip Report

cc w/enclosure:
See next page

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TOPICAL SUMMARY - TURKEY POINT TRIP
March 29 & 30, 1983

PERSONNEL INVOLVED

NRC - Richard E. Cunningham, Director, Division of Fuel Cycle and Material Safety, NMSS

- Frank J. Congel, Chief, Radiological Assessment Branch, DSI/NRR

- Richard J. Serbu, Radiation Protection Section, RAB/DSI/NRR

FP&L - Joe Danek, Corporate Health Physicist

Turkey Point - Pat Hughes, Plant Health Physicist

- Jim Bates, Plant ALARA Supervisor

AGENDA

1. Discussion of Turkey Point Steam Generator Replacements -

Joe Danek discussed the operational and radiological aspects of the S/G replacements, keying on preparation, doses, and specific ALARA measures. He noted that while the lessons learned from the efforts on the first unit were important, the biggest gains in reducing dose and smoothing the effort came from the use of experienced personnel, particularly supervisors, on the second unit efforts. Very significant dose savings- 20% to 30% or greater - are expected over dose expenditures for equivalent work on the first effort, with accompanying time and manpower savings. FP&L is willing to share their lessons learned & experience with other utilities. Of particular interest, personnel from CP&L

have visited Turkey Point in preparation for their planned S/G replacements in 1984. FP&L feels their strong ALARA effort has paid off in the efficiency of this operation. Our PNL contractors also attended this briefing, and received additional detailed information which will be documented in the "Radiological Assessment of Steam Generator Repair and Replacement" NUREG slated for publication in October.

2. Tour of Training and Mockup Facilities

Joe Danek and Jim Bates showed us the large and extensive facilities needed to train the many contractor personnel for the outages. (Specific efforts were directed to minimize the number of people needed for the work effort). Training for radiation workers was part of a 20 hour training course which included lecture and performance of practical factors (e.g. donning/removing PC's; entry & egress of control points; working with radioative equipment). Specific training for steam generator entry is conducted on a full scale mockup. The channel heads removed from the new replacement S/G's were used to provide workers with actual experience in cutting and welding the channel heads and divider plates.

3. Turkey Point Dose Control System

Turkey Point employs a computer-based dose tracking system which allows real time update of worker and task dose. A HP 1000 computer, connected with several remote terminals enables the control point personnel to input doses from self-reading pocket chamber readings into a data base.

Accumulated dose is updated, and allowable remaining dose is automatically calculated and displayed. The system effectively prevents individuals from exceeding local dose control levels, monitors dose extensions, and helps avert overexposures, since the updates are instantaneous once inputed, and all other control points will have the same information. The information is also available to the ALARA Supervisor for task dose update. Programs have been developed in-house specifically suited to Turkey Point's dose tracking needs. Worker dose updates are routinely provided on printouts for workers and supervisors. When TLD's are read out (in accordance with local procedures), the doses by TLD and pocket chamber are automatically compared and discrepancies flagged and investigated.

4. Tour of Aux Building and Containment

Jim Bates escorted us through the auxilliary and containment, where the recovery phase of the steam generator work was in progress. He pointed out the principal work sites and radiological conditions associated with the work zones. Work areas frequently contained portable radiation monitoring meters with readily visible LED dose rate displays. These were mounted on stands in high dose areas to provide workers with continual dose rate reminders. The work areas were remarkably clean for the amount of work being done and numbers of personnel involved. Area radiological postings were well kept, and survey maps clearly showed dose rates and contamination levels for all accessable areas. A general area decon of the containment had been performed to improve the radiological

conditions and ease the impact on the work and workers (e.g. from protective clothing requirements,respiratory protection requirements). Main containment entry was via the equipment hatch. The smaller personnel hatch required passage through an area open to the weather (typical of many plants). Control point egress required whole body frisking and eventual exit through a highly sensitive liquid scintillation portal monitor. We also were able to check out at first hand the computerized dose tracking system - our dose expended and dose remaining were immediately updated and available to other terminals.

5. Miscellaneous

We also received entry and exit whole body counts. FP&L owns their own whole body counting systems and kept them manned by IRM technicians during the outage. They reported a favorable cost-benefit in owning the equipment and being able to process large number of people quickly, minimizing waiting and back-ups. Administrative systems associated with radiation protection were fairly smooth and streamlined. Large change areas were specially built for the outage. We also viewed the "masoleum" built for on site storage of the removed steam generators. I also discussed our B-2522 contract work with the PNL Project Manager, Mary Ann Parkhurst, and Glen Hoenes during this visit.