



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

November 3, 2000

LICENSEE: Florida Power and Light Company

FACILITY: St. Lucie Nuclear Plant, Unit 1

SUBJECT: SUMMARY OF MEETING ON OCTOBER 24, 2000, REGARDING
ST. LUCIE UNIT 1 EMERGENCY DIESEL GENERATOR ALLOWED
OUTAGE TIME EXTENSION (TAC NO. MA 7205)

On October 24, 2000, the U.S. Nuclear Regulatory Commission (NRC) staff met with Florida Power and Light Company (FPL) representatives at NRC headquarters in Rockville, Maryland. The purpose of the meeting was to discuss FPL's request dated November 17, 1999, to extend the Unit 1 emergency diesel generators (EDGs) allowed outage time (AOT) from 3 days to 14 days. The meeting was open to the public, as stated in the meeting notice dated October 6, 2000, and was held at FPL's request. Enclosure 1 is a list of attendees and Enclosure 2 is the handout material that was distributed during the meeting.

FPL representatives described the configuration of the cable spreading room (CSR), including the electrical systems train separation and the layout of the potential ignition sources, via the use of a walkdown video and drawings of the CSR. The control room (CR) is located directly above the CSR. A reduced-size copy of the CSR, CR, and train layout drawings is included as Enclosure 3. The fire protection features in the CSR include water hoses, fire extinguishers, and fire watches, including video cameras. They also discussed the revised fire risk analysis for St. Lucie Unit 1 CR and the CSR, and the basis for their request to extend the EDG AOT from 3 days to 14 days. The results of the FPL analyses are provided in Enclosure 2. FPL concluded that the increase in risk from a fire for a 14-day EDG AOT is not significant.

The staff noted that the meeting was beneficial in gaining an understanding of FPL fire risk analyses and the additional compensatory measures that will be implemented during the EDG outage. Based on NRC staff comments, FPL agreed to provide the following in a timely manner.

1. Responses to the NRC staff concerns that should include quantitative reevaluation and elaboration of the fire risk analysis in the CSR and CR. The elaboration of the fire risk should include a discussion of critical components, ignition sources, cable trays and cable arrangement, location of critical cables, and transient combustible control.

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2. Tier 2 commitments when in the extended AOT, such as significant restrictions on hot-work in the CSR, continuous fire watch, plant fire protection walkdown prior to entering an extended AOT, and potential thermographic examination of high-risk ignition sources in the CSR and the CR.

Kahtan N. Jabbour

Kahtan N. Jabbour, Senior Project Manager, Section 2
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-335

Enclosures:

1. Attendance List
2. FPL Handout
3. Reduced-size drawings

cc w/enclosures: See next page

November 3, 2000

- 2. Tier 2 commitments when in the extended AOT, such as significant restrictions on hot-work in the CSR, continuous fire watch, plant fire protection walkdown prior to entering an extended AOT, and potential thermographic examination of high-risk ignition sources in the CSR and the CR.

/RA/

Kahtan N. Jabbour, Senior Project Manager, Section 2
 Project Directorate II
 Division of Licensing Project Management
 Office of Nuclear Reactor Regulation

Docket No. 50-335

- Enclosures: 1. Attendance List
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cc w/enclosures: See next page

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DATE	11/3 /00	11/3 /00	11/3 /00	11/ /00

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ATTENDANCE LIST

NUCLEAR REGULATORY COMMISSION MEETING WITH FLORIDA POWER

AND LIGHT COMPANY

ST. LUCIE UNIT 1 EMERGENCY DIESEL GENERATOR

ALLOWED OUTAGE TIME EXTENSION

OCTOBER 24, 2000

NRC

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R. Correia

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W. Rogers

S. Wong

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FPL

E. Weinkam

V. Rubano

C. Guey

* denotes part-time attendance



**St. Lucie Unit 1
Meeting with the USNRC/NRR
Proposed License Amendment
Emergency Diesel Generator AOT
PSA Considerations
October 24, 2000**



St. Lucie Unit 1

Emergency Diesel Generator AOT

- The staff's estimate of the increase in risk due to fire does not meet R.G. 1.177
 - Staff's estimate based on St. Lucie's IPEEE submittal
 - The IPEEE submittal used the FIVE methodology
 - Results in an unrealistically high core damage frequency for the CR and CSR
- FPL has proposed an alternate means of estimating the increase in risk
- This meeting is to review the basis of the fire risk for the CR and CSR for a 14-day AOT for St. Lucie Unit 1



St. Lucie Unit 1

Emergency Diesel Generator AOT

- Based on the latest analysis, the estimated increase in risk is:
 - For the Cable Spread Room
 - ICCDP 4.0E-8
 - ICLERP 4.0E-9
 - For the Control Room
 - ICCDP 5.7E-8
 - ICLERP 5.7E-9



St. Lucie Unit 1

Emergency Diesel Generator AOT

Cable Spread Room

- The CSR was reviewed for:
 - Ignition Sources
 - Cable Tray and Cable Arrangement
 - Location of Critical Cables (EDG, SBO Cross Tie, Offsite Power)
 - Transient Combustible Control



St. Lucie Unit 1

Emergency Diesel Generator AOT

Ignition Sources

- The main ignition sources of concern are the pressurizer heater transformers
 - Transformers have 4 kV primary and 480 v secondary
 - Transformers are dry type with vented metal enclosure
 - 4 kV cables enter from the bottom and are not exposed in the room
 - Cables exit directly to attached switchgear
 - Cables exiting the switchgear are in conduit



St. Lucie Unit 1

Emergency Diesel Generator AOT

Ignition Sources (cont.)

- The power programmer cabinets are also a concern
 - These cabinets have a ventilation fan near the top of the cabinet
 - Ventilation louvers exist at the lower part of cabinet
 - A credible fire propagation pathway exists
 - A fault in these cabinets would likely trip the reactor
 - A reactor trip de-energizes the cabinets removing energy source



St. Lucie Unit 1

Emergency Diesel Generator AOT

Ignition Sources (cont.)

- Additional ignition sources considered include 480 v load centers, DC distribution panels, and reactor trip switchgear
 - All of these cabinets are enclosed
 - Most with solid tops
 - All cables exiting the cabinets are in conduit
 - Cabinets are well separated with no continuity of combustibles at floor level



St. Lucie Unit 1

Emergency Diesel Generator AOT

Cable Tray and Cable Arrangement

- In most cases the lowest tray has a solid bottom and cover
- Most cable tray stacks have at least one solid tray with a solid cover
- All non-qualified cables are heavily coated in fire retardant material
- Due to fire retardant coatings, most vented trays will act as solid trays
- Vertical cable tray runs have solid tops and bottoms



St. Lucie Unit 1

Emergency Diesel Generator AOT

Location of Critical Cables (EDG, SBO Cross Tie, Offsite Power)

- Control Cables for offsite power and EDG for Train A and B are well separated
 - Area under RTGB 101 has these cables in relatively close proximity
 - Cables from the control room are in enclosed wireway or conduit
- Control Cables for Station Blackout Cross Tie have some separation from EDG cables



St. Lucie Unit 1

Emergency Diesel Generator AOT

Transient Combustible Control

- Transient combustibles are under strict administrative control
- Cable trays are located greater than 9 feet above the floor
- Based on train separation a transient fire would be expected to affect only one train
- Based on cable tray location, cable tray construction and fire retardant
 - Unlikely that a transient fire would cause significant cable damage



St. Lucie Unit 1

Emergency Diesel Generator AOT

Results

- Transformer fire
 - A fire in transformer for bus 1A3 would affect only “A” train power
 - A fire in transformer for bus 1B3 would affect only “B” train power
 - ICCDP estimated at $6.06E-9$ for both transformers
- Power Programmer Cabinet
 - Cables from main Control Board for EDG and offsite power directly above these cabinets
 - ICCDP is estimated at $3.07E-8$
- Cumulative ICCDP for CSR is estimated at $3.68E-8$



St. Lucie Unit 1

Emergency Diesel Generator AOT

Control Room

- Severe and non-severe fires considered
- RTGB 101 sections represent a linear weighting factor of 2 with a linear weighting factor of 90 for all control room cabinets
- Non-severe fire ICCDP estimated at $4.37E-8$
- Severe fire ICCDP estimated at $1.34E-8$
- Cumulative ICCDP estimated at $5.71E-8$

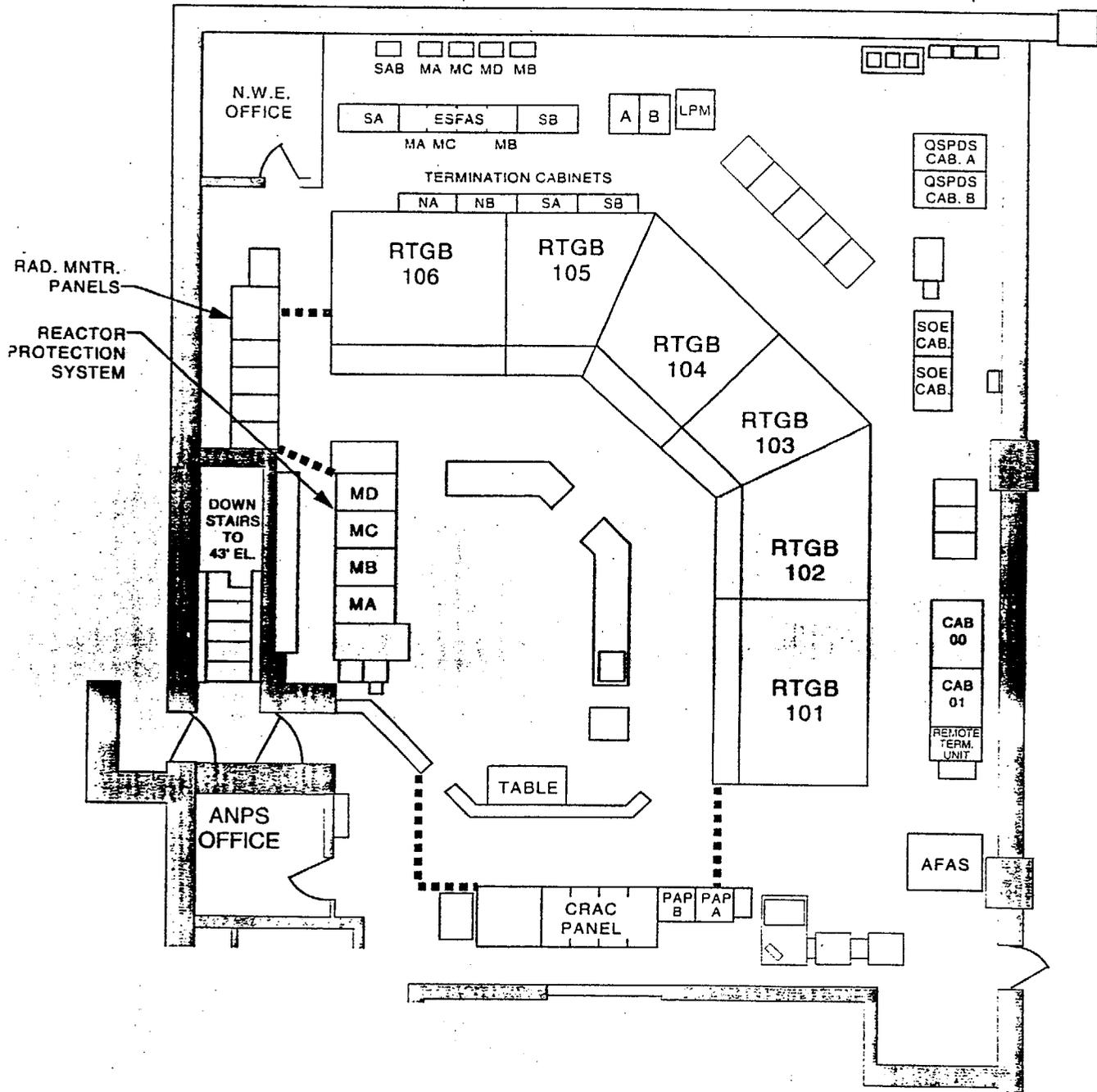


St. Lucie Unit 1

Emergency Diesel Generator AOT

Summary

- The estimated ICCDP for fire risk with a 14-day AOT for the EDG is 9.39E-8 for the CR and CSR
- This estimate does not take credit for additional compensatory measures in the CSR
- Additional compensatory measures would lower the risk
- Difficult to estimate the affect on risk of the compensatory measures
- The risk assessment represented above shows that the increase in risk from a fire for a 14-day EDG AOT is not significant
- This information will be submitted in answer to the RAI

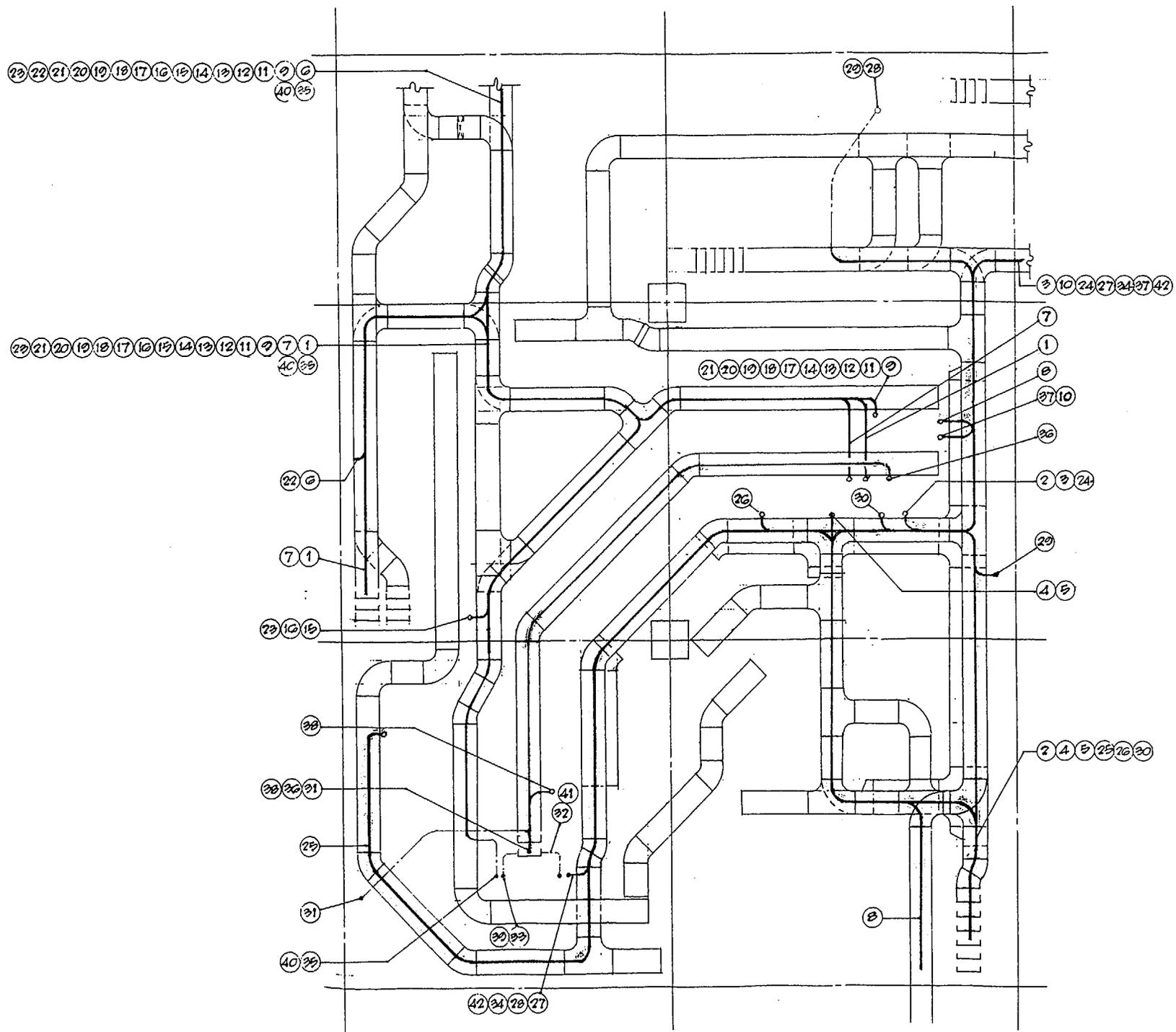


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ST. LUCIE - UNIT #1
FLOOR PLAN UNIT 1 CONTROL ROOM
ELEVATION 62.00'



_____ 'A' Train
 _____ 'B' Train
 _____ 'AB' Train

Florida Power and Light Company

ST. LUCIE PLANT

cc:

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