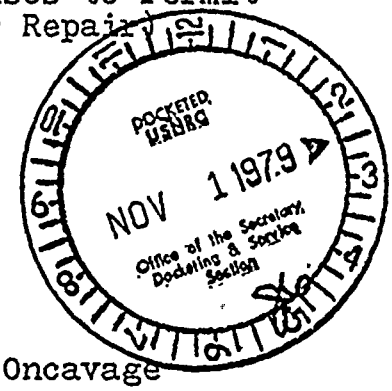
RELATED CORRESPONDENCE

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of FLORIDA POWER AND LIGHT COMPANY (Turkey Point Nuclear Generating Unit Nos. 3 and 4)	Docket Nos. 50-250 50-251 (Proposed Amendments to Facility Operating Licenses to Permit Steam Generator Repair)



INTERVENOR MARK P. ONCAVAGE'S
INTERROGATORIES TO, AND REQUEST
FOR THE PRODUCTION OF DOCUMENTS FROM,
LICENSEE FLORIDA POWER AND LIGHT COMPANY

Pursuant to 10 CFR § 2.740(b), Intervenor Mark P. Oncavage requests that the following interrogatories be answered fully, in writing, and under oath or affirmation by licensee Florida Power & Light Company.

For each response to the interrogatories listed below, identify the person or persons who prepared, or substantially contributed to the preparation of, the response.

The interrogatories attached are to be considered licensee's continuing obligation. Accordingly, if, after these interrogatories have been answered, additional information comes to attention of the licensee with respect to one or more of the answers, the answers should be amended in a timely manner to provide such additional information.

Intervenor further requests that licensee, pursuant to 10 CFR § 2.741, provide copies of, or make available for inspection and copying, the documents designated by licensee in response to these interrogatories within 30 days of service.

For each response to these interrogatories:

A. Identify all documents, reports and studies, and the particular parts thereof, relied upon by the licensee, now or in the past, which serve as the basis for the answer. In lieu thereof, at licensee's option, a copy of each such document and study may be attached to the answer.

B. Identify all documents, reports and studies, and the particular parts thereof, examined but not relied upon by the licensee, which pertain to the subject matter questioned. In lieu thereof, at licensee's option, a copy of each such document and study may be attached to the answer.

C. Identify by name, title and affiliation each licensee employee or consultant that has the expert knowledge required to support the answer to the question.

D. Explain whether licensee is presently engaged in or intends to engage in any further planning, consultation, research, or work which may affect licensee's answer. Identify such planning, consultation, research or work.

E. Identify any person or persons, if any, whom licensee intends to have testify as expert witnesses, or otherwise, on the subject matter questioned. Provide the names, addresses, educational background, and professional qualifications of each such person.

F. Provide summaries of the views, positions or proposed testimony from all persons identified in E above that licensee intends to present during the proceedings.

G. Identify by author, title, date of publication and publisher, all books, documents, and papers that licesee intends to

employ or rely upon in presenting a direct case on the subject matter questioned and provide copies of, or make available for intervenor's inspection and copying these items.

H. Identify by author, title, date of publication and publisher, all books, documents, and papers that licensee intends to employ or rely upon in conducting cross-examination of prospective intervenor witnesses testifying on the subject matter questioned.

Contention 1

1-1. State in detail what assurances licensee can provide that upon completion of the steam generator repairs the nuclear units 3 and 4 at Turkey Point will provide maintenance free operations for the remaining life of the units.

A. State the basis for any such assurance proffered.

B. Provide all data and calculations, testing results, and consultation reports that support the bases for any such assurance.

1-2. Does licensee forsee any ... major repairs or major maintenance to the nuclear reactor units 3 and 4 at Turkey Point in the next ten years of operation of the units?

A. If so, what?

B. If not, why not?

1-3. State the details of, or produce any guarantees or warranties, contractural or otherwise, that exist or will exist between the manufacturer of the replacement steam generator assemblies and licensee which insure that the redesigned assemblies will fulfill their intended function without breakdown and further tube degradation.

1-4. State when the steam generator assemblies which will serve as replacements in the proposed repairs were ordered from the manufacturer.

1-5. State the dates of the fabrication and construction of the replacement steam generator assemblies.

1-6. Do the replacement steam generator assemblies incorporate the most recent improvements in steam generator design?

A. If so, state in detail the nature of those improvements.

B. If not, state details of all modifications or improvements made by the manufacturer in steam generator design since manufacture of the replacement steam generator assemblies.

1-7. State the bases relied upon by licensee that the replacement steam generator assemblies will perform without tube degradation for the remaining life of the units. Provide all test data in support of any such bases..

1-8. Estimate any potential tube degradation after installation of the steam generator assemblies upon resumption of reactor operation. Provide data and calculations supporting any such estimates.

1-9. State whether there is any corrosive chemical material in the steam generator system left from phosphate treatment system that will not be removed by the replacement of the steam generator lower assemblies.

A. If none, explain how such material was removed.

B. If there is, provide details on each chemical substance present. Include:

(1) Identification of each such substance.

(2) The amount present.

(3) Location in the steam generator system.

(4) The estimated effect on operations of the steam generators after the repairs are completed.

(5) Test data, measurements, calculations, and any other analysis made in determining the presence and significance of any such substance.

1-10. Describe in detail the chemistry of the coolants that will be used in the primary and secondary coolant systems in the replacement steam generator assemblies when operational.

1-11. State whether licensee has or is considering or has been directed by the NRC Staff to consider any retrofitting or backfitting to incorporate safety features, which the NRC Staff has determined as being necessary since review of the Three Mile Island accident, while the units to be repaired are shut down.

A. If not, why not?

B. If so, provide details of any such considerations.

C. If by NRC Staff direction, provide details of any correspondance or communication transmitting such direction.

1-12. Describe in detail or provide all data, calculations and any other information used in licensee's analysis and evaluation of the cost effectiveness of total decontamination of the defective steam generators and work areas prior to initiation of repairs as a method for reducing the total operational exposure required by the repairs. Describe in detail the procedures that were considered.

1-13. What is meant by "uncertainties in estimating job man-hours and radiation intensities" stated in the EIA on page 4-2, paragraph 1?

A. Provide data and calculations for estimating the range for job man-hours.

B. Provide data and calculations for estimating range of radiation intensities.

C. Provide the ranges of radiation field intensities.

1-14. Describe in detail all testing and inspection that will be performed to assure:

A. Weld quality for all welds done during repairs.

B. Tube integrity.

C. Containment building integrity.

D. Primary loop integrity.

E. Secondary loop integrity.

F. All other inspections needed prior to the generation of electricity at full power per reactor.

1-15. Provide task descriptions, man-hour requirements, radiation intensity data, and man-rem exposure incurred for all tasks associated with all testing and inspections that will be performed prior to the generation of electricity at full power per reactor.

1-16. State the names, addresses and telephone numbers, and job titles of all individuals who prepared or substantially contributed to the preparation of the SGRR and identify the sections of the SGRR each person or persons worked, including all amedments to the SGRR.

1-17. State whether any firms or corporate entities other than FPL contributed to the preparation of the SGRR or any amendments thereto.

A. Give the name, address and telephone number of any such firm or corporation that contributed to preparation of the SGRR.

B. Give the name of any person or persons responsible for the preparation of any such firm or corporation's contribution to the SGRR.

C. Specify which firm or corporation contributed to which sections of the SGRR.

1-18. Is there at the present time or any time in the last three months that local contamination procedures are being or were employed at Turkey Point? If so, describe in detail:

A. What local decontamination is being done.

B. The system or structure being decontaminated and its location.

C. The employees or workers who are implementing local decontamination. Include their race, place of geographic origin, rate of pay, training, previous skills, and knowledge of nuclear labor techniques and attendant dangers, their sex, their age and how and by whom they were recruited for the employment.

1-19. Describe in detail all contingency plans prepared by licensee to safeguard the repair project and/or to protect the public from releases of radioactivity, in the event of a major hurricane occurring during the time projected for the repairs to the steam generators. Include all plans considered but not prepared.

1-20. Describe in detail all plans prepared by licensee or considered by licensee to protect the public and the environment from radioactive contamination, in the event of a major hurricane, failure of the steam generator storage building, rupture of seals or casings of stored steam generator assemblies, and immersion of those assemblies in salt water.

1-21. Describe in detail how licensee intends to dispose of all solid radioactive waste generated during the repair project in the event that all waste disposal sites that receive radwaste from nuclear power plants are closed.

1-22. Describe in detail how licensee intends to dispose of defective steam generator assemblies, in the event that licensee is prohibited from or decides not to store such assemblies onsite as proposed in the SGRR. For any disposal method stated, provide:

A. The amount of occupational exposure that will be incurred, task by task for the method of disposal to be used.

B. The amount of time that will be required.

C. The cost breakdown for all aspects of the disposal method.

D. The location of the ultimate disposal site the assemblies will be transported to.

E. The form of transportation that will be used.

1-23. State under what conditions is cooling water from the cooling canals allowed or permitted to be directly discharged into Card Sound.

1-24. Does licensee contend that water, chemical effluent, and liquid radioactive waste contained in the cooling canals does not reach Card Sound or Biscayne Bay other than through controlled releases to the Card Sound canal?

A. If so, state why.

B. If not, why not?

1-25. What study, research, analysis, measurement and testing has licensee made to assess the potential impact on the environment, including all life forms present, of all forms of pollution generated as a result of construction activities and materials for the proposed steam generator repairs, construction of the steam generator storage building, and installation and construction of buildings to house the condensate polisher demineralizer system. Provide all data, calculations, and all reports, studies, memorandum, and any forms of correspondance used in making such an assessment. If no assessment has been made, state why not.

1-26. Has licensee assessed the potential impact on the environment and all its life forms of the cumulative and synergistic effect of pollution generated as a result of the combined construction activities and materials for the repair project, additional levels of effluent from installation of the condensate polisher demineralizer

system discharged into cooling canals, further radioactive releases during repairs and upon resuming reactor operations, and the residual concentrations of radioactive nuclides already present in the environment as a result of plant emmission or discharge. Provide all records, data, and calculations and documents considered in making any such assessment. If no assessment has been made, state why not.

1-27. State whether or not there are any endangered species, as listed in the Federal Endangered Species Act, living onsite or in the vicinity of Turkey Point. If so:

A. Identify the species present.

B. The numbers of each species present.

C. Describe the location and nature of each species habitat.

D. Describe in detail any plans prepared or considered by licensee which insure any endangered species present are not threatened or their habitat endangered by any aspect of the steam generator repairs or installation of the condensate polisher demineralizer system.

E. If any species are present, state why potential impact of the repairs on them was not addressed in the SGRR.

1-28. Has licensee assessed the potential impact of the repairs on the surrounding communities, as to:

A. The effect of an influx of transient workers.

B. Any increased demand on services both public and private.

C. Effect on traffic in the area.

D. The effect on the availability of housing during the farming season when large numbers of migrant workers are present.

E. Provide any data, reports, and calculations used to make any such assessment.

1-29. Describe in detail any assessment made by licensee of the environmental impact of providing replacement power during the repair outages at Turkey Point by reactivating decommissioned fossil fuel plants. If none has been made, provide such an assessment, to include:

A. Which generating plants will provide replacement power, their location and capacity, and the fuel used to generate electricity.

B. An assessment of such plants potential for environmental degradation from thermal, air, and water discharges.

C. The effects of the use of nonrenewable fuels on cost, and availability of energy supplies.

D. Whether such plants are fitted with double injector fuel systems to allow for the burning of oil or gas. If so, which?

E. The generating capacity for each plant.

F. The amount of replacement power each plant will provide during the outage for repairs.

G. The service area for each plant.

H. The effect of recommissioning on employement in the area.

I. A complete cost analysis for the recommissioning of any plants,and for any plant providing replacement power a cost analysis for its operation during the outage time. Specifiy the date used for establishing costs of recommissioning and operation.

J. If any of the above information is contained in already prepared reports or other documents, please provide such documents and reports.

1-30. Provide a complete cost analysis of the steam generator repairs and the installation and housing of the condensate polisher demineralizer system based on 1979 cost data for all aspects of the project.

1-31. State the methods which licensee intends to employ to raise

capital to finance the steam generator repairs and installation of the condensate polisher demineralizer and for replacement power during the repair outages.

A. What will be the interest rates on loans made by licensee to obtain capital financing?

B. What will be the costs for bonds used to obtain capital?

C. Did licensee ascertain the effect the cost of the proposed project will have on the availability of capital. If so, what will be the effect.

1-32. Does licensee intend to pursue a rate increase from the Public Service Commission of the State of Florida as a result of the project to repair the steam generators? Provide data and calculations on any plans to increase rates to consumers based on the repair costs, or any other costs related to the repair project.

1-33. Provide a cost analysis of the costs to operate Turkey Point nuclear reactor units 3 & 4.

1-34. Provide details on:

A. The total generating capacity of Turkey Point units 3 & 4.

B. Licensee's total generating capacity.

C. The total amount of electricity sold, and the amount of electricity supplied by units 3 & 4 for those sales.

D. Licensee's pricing and rate structure for the sale of electricity.

E. Any contracts for the sale of electricity to any other public utility. Include the amounts of electricity contracted for.

F. Any demand/need estimates, predictions or studies through the year 2000 A.D.

G. All previous unit 3 & 4 shutdowns.

H. Costs of all previous shutdowns and for all other

major maintenance repairs.

1-35. Describe in detail any planning, research, consultation, and any other study which licensee has made, is making, or will make in the future for implementing conservation measures and/or technologies other than nuclear for the generation of electricity as alternatives to the proposed repairs of the steam generators, or as alternatives for future generation of electricity. Include:

A. The division or department at FPL responsible for conservation planning and for alternative technologies.

B. Any firms, corporate or otherwise, providing consultation or design information on conservation and any alternative technologies.

C. The person or persons responsible for and most knowledgeable about conservation measures and alternative technologies. Provide their names, addresses, telephone numbers, and their job titles.

D. With regard to conservation measures, state:

(1) All plans to develop consumer incentives to encourage conservation of electricity. Provide any reports, data or documents used in consideration of any plan.

(2) The amount of energy savings that would accrue were any conservation plan to be implemented. Provide data and calculations on any such analysis.

(3) Details of any proposals made to either the Federal Department of Energy or the State of Florida agencies having authority.

E. With regard to alternative technologies for generating electricity, state:

(1) Any plan, research or study concerning the implementation of solar photovoltaic cells for the generation of electricity.

(2) Any plan, research, study and report considered by licensee for implementing the generation of electricity by production

of methane.

(3) Any plan, research, study, or report considered by licensee for implementing the generation of electricity by the production and combustion of hydrogen.

(4) Any plan, research, study, or report considered by licensee for implementing the generation of electricity through the development of Ocean Thermal Energy Conversion.

(5) Any plan, research, study, or report of any other alternative technology for the generation of electricity presently under consideration, or that has been considered by licensee.

F. Does licensee have under consideration any plan for aiding consumers to finance the purchase and installation of solar hot water heaters. If so, provide details.

G. For any conservation plan or alternative technology under consideration by licensee state the amount of research funds and development funds expended for each in the last ten years and the amount budgeted for each for the next ten years.

1-36. State whether or not licensee is presently obligated to any contracts for the steam generator repairs and installation of the condensate polisher demineralizer system, to include, but not limited to, contracts for:

A. Materials.

B. Labor.

C. Component fabrication and construction.

D. Engineering and design.

E. Remote tooling and other equipment.

F. Replacement fuel.

If so, provide a copy of any such contracts.

Contention 2

2-1 What are the tasks involved in the preoperational testing program for placing a unit back in service with modified steam generators ?

2-2 What will be the radiation intensity fields for each of the following tasks:

a. Unload entire core.

b. Survey containment work areas, perform local decontamination, and shield areas where necessary.

c. Install cover over the reactor cavity to provide protection to the reactor vessel and associated equipment and to provide a contiguous work area.

d. Assemble special prefabricated scaffolding to permit access to all work areas.

e. Remove biological shield wall and transport debris from the containment.

f. Remove insulation from steam generators, feedwater piping, steam line piping, reactor coolant piping, and other components and transport debris from the containment.

g. Install local control structures, such as tents, ducting, temporary filters, etc.

h. Install the steam generator transport system, e.g., rails, inside the containment and on equipment hatch.

i. Enlarge and/or reinforce equipment hatch platform outside of the containment.

j. Inspect and test containment polar crane.

k. Remove miscellaneous small piping, such as blowdown piping, and instruments and controls, such as level transmitters, to facilitate removal of the steam generators.

l. Cut steam line piping at the steam nozzle on the upper shell and downstream to allow a section of the piping to be removed so that the upper and lower shells can be fitted.

m. Cut feedwater piping at its junction with the upper shell and upstream from the junction to allow a section of the piping to be removed so that the upper and lower shell can be removed.

n. Cut and remove reactor coolant inlet and outlet piping. A section of the hot leg(inlet) piping (an elbow) will be removed by cutting the pipe at the steam generator nozzle and on the outlet side of the reactor coolant system isolation valve. A larger section of cold leg (outlet) piping, consisting of two elbows and two straight sections, will be removed by cutting the pipe at the steam generator nozzle and upstream from the reactor coolant pump.

o. Cut steam generator wrapper and internal blowdown piping to facilitate lifting of the upper shell.

p. Cut steam generator shell on the transition cone.

q. Lift off the upper shell of the steam generator with the polar crane and store in the containment.

r. Inspect and remove moisture separation equipment, feedring, and other associated equipment.

s. Disassemble and/or remove the steam generator supports to allow the lower steam generator assembly to be lifted by the polar crane.

t. Lift the steam generator lower assembly from its supports using the polar crane.

u. Remove the steam generator lower shell assembly from the containment through the equipment hatch.

v. During removal and thereafter, clean and decontaminate the containment work area to the extent practicable.

w. Following the transport of the steam generator lower assemblies through the equipment hatch, remove them from the equipment hatch platform by means of mobile cranes and transport them to an interim storage location.

x. Remove cutaway pipe sections from containment.

y. Dispose of steam generator.

z. Deliver replacement steam generator lower assembly by barge.

aa. Lift the steam generator lower assembly from the transporter onto the equipment hatch platform by means of mobile cranes. Move it through the equipment hatch and into the containment using the containment transport system.

bb. Transport the assembly to a designated location within the containment and upend it using the polar crane. Lift the assembly vertically and move it to a position over the steam generator supports. Lower the assembly into place over the supports. Temporary positioning devices (e.g., jacks) may be installed to facilitate the positioning of the lower assembly without the use of a polar crane.

cc. Reassemble and/or reinstall the steam generator support system.

dd. Install new moisture separation equipment, feedring and other internal components in the upper shell. prepare mating surface of upper shell for welding to lower assembly.

ee. Lift upper steam generator shell into place and align with lower assenbly. Temporary positioning devices may be used to facilitate alignment without the use of the polar crane.

ff. Weld the upper and lower assemblies together, stress-relieve, and inspect.

gg. Weld the steam generator wrapper to the upper internals and inspect.

hh. Install the reactor coolant piping.

ii. Fitup weld and inspect the main steam piping.

jj. Fitup, weld, and inspect the feedwater piping.

kk. Install miscellaneous piping (e.g., blowdown) instrumentation and controls which were removed.

ll. Construct biological shield wall, repair crane wall and other concrete structures that were chipped.

mm. Clean affected systems and work areas.

nn. Install insulation.

oo. Remove scaffolding.

pp. Remove cavity cover.

qq. Reload core.

rr. Radiation survey mentioned at § 2.6.1.1 of NRC Safety Evaluation Report.

ss. Local decontamination mentioned at § 2.6.1.1 of NRC Safety Evaluation Report.

tt. Removal of sections of containment internal structures mentioned at § 2.6.1.1 of NRC Safety Evaluation Report.

uu. Move steam generator to storage or cutup facility deposit and seal facility.

vv. Monitoring of steam generator in sealed storage facility for about 30 years

ww. Each of the tasks described in answer to interrogatory 2-1.

xx. Disposal or decontamination of temporary shielding.

yy. Waiting in low background radiation areas.

zz. Ingress and egress to work location.

2-3 For each of the tasks listed in question 2-2, describe how each radiation field intensity rate was computed, providing:

a. Isotopical nature of the material.

b. Quantity of radioactive material.

c. Nature of emitted radiation.

d. Nature of the shielding between the source and the receptor.

e. Geometry (e.g. distances and dimensions).

f. Intensification due to high temperatures, volatization, and particulate suspension.

g. Exposure rate (R/hr).

2-4 For each of the tasks listed in question 2-2, please list:

a. The number of times monitoring measurements were taken for computing field intensity rates.

b. The dates on which monitoring measurements were taken for computing field intensity rates.

c. Each measurement.

d. The location of each measurement device.

2-5 Has the Licensee made future projections of field intensity rates for any of the tasks listed in question 2-2 ?

2-6 If the answer to question 2-5 is yes, describe for each projection:

a. The task.

b. The projection date.

c. The projected field intensity rate.

d. The procedure employed for determinig the rate.

2-7 Describe the procedure and provide calculations and data for determining the radiation field intensity rate reductions that will occur due to water being kept in the steam generators, for each item listed in question 2-2 to which this procedure is applicable.

2-8 For each task listed in question 2-2, where applicable, describe the shielding that will be used for each worker and provide the calculations and data for determining the reduction in radiation intensity fields due to the shielding.

2-9 For each of the tasks described in question 2-2, state the number of workers performing each task.

2-10 For each worker performing a task, as listed in the answer to question 2-9, state the number of hours that each worker will be performing each task.

2-11 For each worker described in the answer to question 2-10, list the total man-rem exposure for that worker.

2-12 For each of the tasks described in question 2-2, state the total number of man hours required for each task.

2-13 For each task described in question 2-2, state the total man-rem exposure for that task.

2-14 Provide a detailed explanation, including calculations and data, for determining that the post repair operation occupational dose for inspection and repair of degraded steam generator tubes will be reduced to 100 man-rem per year for the two Turkey Point units combined for the life of the plant.

2-15 Provide a detailed explanation, including calculations and data, for the assumption that the replacement steam generator tubes will maintain their integrity during the remaining operating lifetime of the plants.

2-16 Provide man-rem doses for the inspection and repair of degraded steam generator tubes for the years 1974, 1975, 1976, 1977, and 1978 for each reactor.

2-17 Has the Licensee established criteria for restricting workers from any tasks listed in question 2-2, based upon the age or sex of a worker ?

2-18 If the answer to question 2-17 is yes, describe fully the nature of those restrictions, including a list of each task to which the restriction will be applied and the age group and/or sex that will be restricted from performing that task.

2-19 Describe attempts that will be made to screen out radiation workers who may be more susceptible to radiation induced problems.

2-20 For each of the tasks listed in question 2-2, describe in detail the prejob planning and the prejob training that will be provided to perform each task, including the number of hours of training that will be provided for each worker performing each task, as listed in the answer to question 2-9.

2-21 Describe the procedure and provide calculations and data for determining the reduction in man-rem exposure, for each task listed in question 2-2, due to job training and job planning.

2-22 For each task listed in question 2-2, list the reduction in man-rem exposure due to job training and job planning.

2-23 Describe the procedure for hiring each of the workers described in the answer to question 2-9.

2-24 Has the Licensee contracted with any person, either corporate or individual to hire or to provide workers to perform the tasks listed in question 2-2 ?

2-25 If the answer to question 2-24 is yes, attach a copy of that contract to the answers of these interrogatories.

2-26 Describe the procedure the Licensee will use to obtain the reports of each worker's previously accumulated occupational doses.

2-27 Describe the procedure that will be used to obtain a certificate or Form NRC-4 from non-english speaking workers.

2-28 For each task described in question 2-2, provide an explanation, with calculations and data, as to how automated tools and equipment are to be used in reducing the occupational exposure required for cutting, removal, and welding.

2-29 For each task listed in question 2-2, state the reduction in man-rem exposure due to automated tools and equipment being used in cutting, removal and welding.

2-30 Specify what is meant by "Some small sections of containment internal structures..." as mentioned in the NRC Safety Evaluation Report § 2.6.1.1.

2-31 Describe procedures if the upper assembly of a steam generator fails to mate satisfactorily with the new lower assembly, due to deformation of one of the assembly halves.

2-32 Provide a Health Physics Manual describing monitoring and protection procedures for workers in radiation fields.

CONTENTION 3

3-1 State in detail the exact steps which will be used in

(a) handling

(b) processing

(c) storing

(d) preventing the discharge of

the primary coolant during the course of the proposed repairs.

3-2 State the names, addresses and telephone numbers of each person employed, retained or consulted by the licensee in preparing the plans for handling, processing and storing the primary coolant.

3-3 State the educational background of each of the persons listed above.

3-4 Identify the documents utilized by each of those persons in preparing the plans for handling, processing and storing the primary coolant.

3-5 Did any of the persons named above disagree, to any extent, with the method ultimately decided upon by the licensee for the handling, processing and storing of the primary coolant during the course of the proposed repairs?

3-6 If so, please state: (a) the names of each of those persons, and (b) the bases for their differences of opinion with the submitted plan.

3-7 State in detail the exact steps which will be used to monitor the release of laundry waste water during the proposed repairs.

3-8 State in detail the exact steps which will be used to measure the amount of radioactive material in the discharged laundry waste water.

3-9 State the names, addresses and telephone numbers of each person employed, retained or consulted by the licensee in establishing the methods for monitoring the release of laundry waste water and measuring the radioactivity of the material in that water.

3-10 State the educational background of each person listed above.

3-11 Identify the documents utilized by each of those persons in establishing the methods for monitoring and measuring.

3-12 Did any of the persons named above disagree, to any extent, with the method ultimately decided upon by the licensee for the monitoring and measuring discussed above? If so, please state their names and the bases of their differences of opinion.

3-13 State the method by which it was determined that any release of radioactive material during the handling, processing, storing or discharging of the primary coolant, or the discharge of laundry waste water will be as low as reasonably achievable within the meaning of 10 CFR, Parts 20 and 50.

3-14 State the names, addresses and telephone numbers of each person employed, retained or consulted by the licensee in making those determinations.

3-15 State the educational background of each person listed above.

3-16 Identify the documents utilized by each of those persons in making determinations regarding the level of radioactivity that will be released.

3-17 Did any of the persons named above disagree, to any extent, with the method ultimately decided upon by the licensee for the monitoring and measuring discussed above? If so, please state their names and the bases for their differences of opinion.

3-18 Specify the volume of primary coolant, in liters present in:

a. Unit 3.

b. Unit 4.

3-19 Provide calculations and data for determinig the amount of primary coolant to be drained, for steam generator repairs, from:

a. Unit 3.

b. Unit 4.

3-20 For the storage tanks that will be used to store primary coolant during steam generator repairs state:

a. Location of each tank.

b. Safe capacity for each tank.

c. Composition of tank wall of each tank.

d. Wall thickness of each tank.

e. Description of any additional biological shielding for each tank.

3-21 Provide calculations and data used to determine the radiation intensity field (R/hr) on the outside surface of each tank storing primary coolant.

3-22 Provide current FSAR (NRC approved) practices for storing primary coolant.

3-23 Provide current FSAR (NRC approved) practices for discharging primary coolant.

3-24 If primary coolant is to be discharged, for each filtering and/or decontaminating device, specify:

a. Name of device.

b. Manufacturer.

c. Model.

d. Capacity

e. Efficiency.

f. Number of devices used, per unit.

3-25 Specify amount of radioactivity, in curies, for all isotopes that will be present in discharged primary coolant:

a. Provide half-life of each isotope listed.

b. Provide calculations and data.

3-26 For the primary coolant presently in unit 3, provide:

a. An inventory of all isotopes.

b. Amount of radiation, in curies, for each isotope.

c. Half-life of each isotope.

d. Date measurement was recorded.

e. Time interval between last operation of unit 3 and date isotopical measurement was taken.

3-27 For the primary coolant presently in unit 4, provide:

a. An inventory of all isotopes.

b. Amount of radioactivity, in curies, for each isotope.

c. Half-life of each isotope.

d. Date measurement was recorded.

e. Time interval between last operation of unit 4 and date isotopical measurement was taken.

3-28 If answer to question 3-9, d, is a date prior to June 1, 1979, provide answers to question 3-9 for primary coolant as of October 22, 1979.

3-29 If answer to question 3-10, d, is a date prior to June 1, 1979, provide answers to question 3-10 for primary coolant as of October 22, 1979.

3-30 Provide calculations and data for a projection of radioactive isotopes in primary coolant as of September 1, 1979, specifying:

a. Inventory of all isotopes

b. Amount of radioactivity, in curies, for each isotope.

c. Identification of each unit for the projection.

3-31 For unit 3, since January 1, 1975, for all new fuel rods, specify:

a. The number of types, of fuel rods having different isotopical makeup.

b. An isotopical inventory for each type of fuel rod.

c. The amount of radioactivity, in curies, for each isotope.

d. The half-life of each isotope.

e. The number of fuel rods, of each type, used.

3-32 For unit 4, since January 1, 1975, for all new fuel rods, specify:

a. The number of types, of fuel rods having different isotopical makeup.

b. An isotopical inventory for each type of fuel rod.

c. The amount of radioactivity, in curies, for each isotope.

d. The half-life of each isotope.

e. The number of fuel rods, of each type, used.

3-33 For unit 3, since January 1, 1975, for all burned up fuel rods extracted, specify:

a. The number of types, of fuel rods having different isotopical makeup.

b. An isotopical inventory for each type of fuel rod.

c. The half-life of each isotope.

d. The amount of radioactivity, in curies, for each isotope.

e. The number of fuel rods of each type, extracted from unit 3.

3-34 For unit 4, since January 1, 1975, for all burned up fuel rods extracted, specify:

a. The number of types, of fuel rods having different isotopical makeup.

b. An isotopical inventory for each type of fuel rod.

c. The half-life of each isotope.

d. The amount of radioactivity, in curies, for each isotope.

e. The number of fuel rods of each type, extracted from unit 4.

Contention 6

6-1 a. What specific standards set out in 10 CFR Part 20 and 10 CFR Part 50 does Licensee contend were considered in the Steam Generator Repair Report (SGRR) and the Final Safety Analysis Report (FSAR) concerning the integrity of the steam generator storage facility ?

b. Identify, specifically, where such standards stated in question 6-1, a, were considered in the SGRR and FSAR.

c. What is the name, title, employer, and educational background of the person, or persons, who drafted the specific sections of the SGRR mentioned in question 6-1, b ?

d. State all documents, papers, research reports, and testimony relied upon by the draftsman of the sections of the SGRR mentioned in question 6-1, b.

e. Give the name, title, employer, and educational background of the person, or persons, who wrote and researched each item listed in answer to question 6-1, d.

6-2 a. Does applicant contend that the SGRR adequately outline the specifics of the storage facility and demonstrate the facility's compliance with 10 CFR Part 20 as it relates to the possibility of radioactive releases into unrestricted areas, as advanced in Contention 6 ?

b. If yes, state the specific sections of the SGRR that do in fact adequately cover the questions raised in this contention and show compliance with 10 CFR Part 20.

c. State the name, title, employer, and educational background of the person or persons who wrote this section of the SGRR mentioned in 6-2, b.

d. State all documents, papers, research reports, and testimony relied upon by the draftsman of the sections mentioned in 6-2, b.

e. Give the name, title, employer, and educational background of the person, or persons, who wrote and researched each item listed in 6-2, d.

6-3 a. Does Licensee contend that the SGRR adequately outlines the specifics of the storage facility and demonstrates the facility's compliance with 10 CFR Part 20 as it relates to the possibility of radioactive releases which are not as is reasonably achievable ?

b. State the specific sections of the SGRR that do, in fact, adequately cover the questions raised in contention 6 and show compliance with 10 CFR Part 50.

c. State the Name, title, employer, and educational background of the person, or persons, who wrote the sections of the SGRR mentioned in question 6-3, b.

d. State all the documents, papers, research reports and testimony relied upon by the draftsman of the sections mentioned in question 6-3, b.

e. State the name, title, employer, and educational background of the person or persons who wrote and researched each item listed in question 6-3, d.

6-4 a. List all sections and titles of reports and papers wherein the Licensee considered substantial immersion of the steam generator lower assemblies in sea water, for each grade of grade one through five hurricanes, respectively.

b. State the name, title, employer, and educational background of the person, or persons, who wrote and researched each item listed in question 6-4, a.

c. State all documents, papers, research reports, and testimony relied upon by the draftsman of the sections mentioned in 6-4, a.

d. State the name, title, employer, and educational background of the person, or persons who wrote and researched the items listed in 6-4, c.

6-5 a. List all sections and titles of reports and papers where the Licensee considered movement of the steam generators, while immersed in sea water, during each

grade hurricane.

b. State the name, title, employer, and educational background of the person or persons who wrote and researched each item listed in 6-5, a.

c. State all documents, papers, research reports, and testimony relied upon by the draftsman of the sections mentioned in 6-5, a.

d. State the name title, employer, and educational background of the person, or persons who wrote and researched the items in 6-5, a.

6-6 a. List all sections and titles of reports and papers where the Licensee considered the impact of such moving steam generators upon the walls of the storage structure, or upon another object or objects.

b. State the name, title, employer, and educational background of the person or persons who wrote and researched each item listed in 6-6, a.

c. State all documents, papers, research reports, and testimony relied upon by the draftsman of the sections mentioned in 6-6, a.

d. State the name, title, employer, and educational background of the person, or persons, who wrote and researched the items listed in 6-6, c.

6-7 a. List all sections and titles of reports and papers where the Licensee considered corrosion of steam generator lower assemblies in the storage facility as a result of moisture, sea water, condensation, or salt spray.

b. State name, title, employer, and educational background of the person, or persons, who wrote and researched each item listed in 6-6, a.

c. State all documents, papers, research reports, and testimony relied upon by the draftsman of the sections mentioned in 6-6, a.

d. State the name, title, employer, and educational background of the person, or persons, who wrote and researched the items listed in 6-6, c.

6-8 a. List all sections and titles of reports and papers wherein the Licensee considered leakage containing radioactivity through the earthen floor of the storage facility.

b. State the name, title, employer, and educational background of the person, or persons, who wrote and researched each item listed in 6-7, a.

c. State all documents, papers, research reports, and testimony relied upon by the draftsman of the sections mentioned in 6-7, a.

d. State the name, title, employer, and educational background of the person, or persons, who wrote and researched the items listed in 6-7, c.

6-9 a. State the documents where the Licensee considered a breach of the integrity of the storage facility and the environmental consequences of such a breach.

b. State the name, title, employer, and educational background of the person or persons who wrote and researched each item listed in 6-8, a.

c. State all documents, papers, research reports, and testimony relied upon by the draftsman of the sections mentioned in 6-8, a.

d. State the name title, employer, and educational background of the person, or persons, who wrote and researched the items listed in 6-8, c.

6-10 Provide names and job titles of persons responsible for submitting final design for Licensee's steam generator storage facility.

6-11 Provide guidelines followed in designing steam generator storage facility.

6-12 Specify distance from ground surface to ground water table at steam generator storage facility site:

a. At mean high water.

b. At mean low water.

6-13 Specify porosity of ground under steam generator storage facility site.

6-14 If immersed in salt water, will sealed steam generator lower assemblies float ?

6-15 Produce blueprints for the steam generator storage facility.

6-16 Describe the function of "stop logs".

6-17 Describe the nature of stop logs specifying:

a. Their material composition.

b. The dimensions of each stop log.

c. The breaking strength of each stop log.

d. The method used to afix each stop log in place.

e. The breaking strength of each fastener holding stop logs in place.

6-18 Describe the roof of the steam generator storage facility specifying:

a. It's composition.

b. The support geometry.

c. It's breaking strength at center point.

d. The methods and materials which will afix it (roof) to the walls.

e. The methods and materials which will afix it (roof) to the stop logs.

f. The breaking strength of the fastenings between the roof and the stop logs.

6-19 Specify the distance between the proposed storage facility site and the closest shoreline point of South Biscayne Bay at mean high water.

6-20 Describe the process for placing the steam generator lower assemblies in the steam generator storage facility.

a. What device will lift the lower assemblies off the transporter ?

b. What device will position the lower assemblies in the steam generator storage facility ?

c. What portions of the steam generator storage facility will remain uncompleted while lower assemblies are being delivered and positioned ?

d. What is the proposed time interval (in days) between the delivery of the first steam generator to the storage facility and first complete closing of the facility with all stop logs and roof in place ?

e. Specify the distance between the floor of the storage facility and the inside ceiling of the storage facility.

f. Specify the distance between the top of the in position steam generator and the inside ceiling.

6-21 Describe the provisions for the collection of condensation inside the steam generator storage facility.

6-22 Provide the calculations and data demonstrating the rate that water would flood into the storage facility if a storm surge measuring 18' above msl were to occur at the Turkey Point Site.

6-23 Describe the means of anchoring steam generators in place, in the storage facility.

6-24 Describe the methods that will be employed to inhibit corrosion of the seal welds while the lower assemblies are in the storage facility.

6-25 Specify the composition of the plates sealing the ends of the lower assemblies.

6-26 Specify the composition of the lower assembly ends to which the seal plates will be welded.

6-27 Provide calculations and data describing the consequences affecting the seal weld plates of a postulated drop of a lower assembly off a transporter.

6-28 Provide a survey of all isotopes present in the defective steam generators.

a. Specify the amount of each isotope, in curies, that has been deposited in each lower assembly.

b. Specify the amount of each isotope, in curies, that is present in the structural members of the the lower assembly due to neutron radiation.

6-29 Specify the date by which the steam generator lower assemblies will be removed from the Turkey Point site, after the long term storage period.

6-30 Specify what radioactive materials will be stored, in addition to the lower assemblies, in the storage facility.

6-31 Specify what radioactive materials will be stored in the storage facility, after the lower assemblies have been removed.

6-32 Specify the date (month and year) the steam generator storage facility will be removed from the Turkey point site.

6-33 Provide calculations and data demonstrating the number of hurricanes that are likely to strike the Southeast Florida coast, During the time the steam generator storage facility will be storing radioactive materials.

6-34 Provide calculations and data demonstrating the number of maximum probable hurricanes that are likely to strike the Southeast Florida coast, during the time the steam generator storage facility will be storing radioactive material.

6-35 Provide calculations and data demonstrating the integrity of the earthen foundation to the steam generator storage facility, in the event of a maximum probable hurricane striking the Turkey Point site.

6-36 Specify the three nearest sites of ground water use to the steam generator storage facility stating:

a. Location of each site.
b. Distance of each site from the storage facility.
c. Direction of each site from the storage facility.
d. Particular use of ground water at each site.

CONTENTION 7

7-1 What is a full-flow condensate polishing de-mineralizing system?

7-2 Who manufactures such systems? (including addresses)

7-3 What are the estimated costs of such systems?

7-4 Who installs such systems?

7-5 Please state the places in which such systems are presently in use and describe any operating problems occurring in those places.

7-6 Identify all documents which explain the operation and use of such systems.

7-7 What are the estimated costs of installation of a full-flow condensate polishing system?

7-8 Is any data available concerning the repair needs of such a system? If so, please identify that data and summarize it.

7-9 State the names, addresses and telephone numbers of all persons who have been consulted, employed or retained by the licensee for the purpose of determining the need and utility of such a system.

7-10 Did any of those persons recommend against the need for and use of such a system? If so, please state their names and the reason for their advice.

7-11 Has any estimate been made of the effluent release or environmental degradation caused by a full-flow condensate polishing de-mineralizing system?

7-12 If so, please state the names, addresses and telephone numbers of the persons making those estimates and those estimates.

7-13 Did the Licensee conduct a water analysis of their present water chemistry to see if the demineralizing system was needed ?

7-14 What chemicals or elements will such a system take out of the water and put back into the water ?

7-15 Produce the purchase agreement for the demineralizer and other new water chemistry support equipment.

7-16 Specify location for demineralizer and support equipment for unit no. 3, and;
a. Unit no. 4.

7-17 Produce contract for obtaining work force for installing demineralizer.

7-18 Provide specifications for the facility housing the demineralizer and new support equipment.

7-19 Specify chemical composition of all effluent for each recharge cycle, for each unit.

7-20 Specify amounts of each chemical composition as requested in question 7-19.

7-21 Specify volume discharge amount per recharge, per unit.

7-22 Specify number of recharges per unit, per year.

7-23

7-23 Produce a National Pollutant Discharge Elimination System amendment or permit authorizing demineralizer effluent.

7-24 Provide calculations and data demonstrating the effect of demineralizer effluent on the cooling canal biota for the projected life of the plant.

7-25 Provide data and calculations demonstrating the effect of demineralizer effluent on the biota found within one mile of the junction of the Card Sound Canal and Card Sound.

7-26 Provide costs associated with personnel maintaining and operating demineralizer on a yearly basis, per unit.

7-27 Provide analysis of salinity and suspended solids rates of cooling canal water after:
a. One year's operation of demineralizers for units 3 and 4.
b. Thirty years operation of demineralizers for units 3 and 4.

7-28 What is the percolation rate of water containing demineralizer effluent through:
a. The bottom of the cooling canals.
b. The sides of the cooling canals.

Contention 9

9-1. List all procedures for monitoring, surveillance, measurement and testing used by licensee and/or its agents to determine levels of radioactivity in the impact environment resulting from airborne or solid waste emissions and liquid waste discharges from the Turkey Point nuclear power plant.

A. Describe in detail all such procedures used.

B. The frequency with which all such procedures are employed.

C. The date of the most recent employment of any procedure listed, to measure concentrations of radioactivity in the environment.

D. The locations where all monitoring procedures are employed, samples taken, and measurements made.

E. The person or persons or corporate entities who have conducted all such monitoring, measurement, and testing procedures, including all those who are under contract with licensee to perform such functions, or who perform such functions under the authority of the State of Florida.

(1) Identify all such persons or corporations by name, address, telephone number and job title.

(2) Provide where applicable the contracts under which all such persons or corporations conduct monitoring procedures.

F. Provide all reports, surveys, memorandum, letters and any other correspondance which contains the data or test results of all monitoring, surveillance, measurement and testing done since Turkey Point began nuclear operations.

9-2. List by radioactive isotope and/or nuclide all cumulative residual concentrations of radioactivity which persists in the environment as a result of airborne and solid waste emissions and liquid waste discharges from Turkey Point. For each isotope or nuclide

listed state:

A. The amount of radioactivity measured.

B. Its half-life.

C. Its location in the environment.

D. Attribute its presence to which form of release.

E. Describe its probable effect on the life forms in the environment and on human health and the manner in which it may impact on human health.

9-3. State whether residual concentrations of radioactivity from airborne, liquid and solid waste releases from Turkey Point have been measured on or in:

A. Any vegetable crop grown in South Dade county area.

B. Any fruit harvested in the area.

C. Any catch of marine life for human food, or in any organisms which are part of the food chain for marine life used for consumption by humans as food.

D. Any dairy product produced in the area.

E. In meat from livestock raised in the area.

F. In drinking water supplies, both of well and municipal nature.

G. In human mother's milk.

H. State whether licensee or its agents have conducted any such testing.

I. If radioactivity has been found on or in any substance listed in 9-3 A-G, please list:

(1) the radioactive isotope and/or nuclide present.

(2) The substance sampled.

(3) The half-life.

(4) The date sample was taken.

(5) The person or corporation making the measurement.

(6) The location the sample was obtained.

(7) Provide all reports, surveys, memorandum, letters, or any other correspondance which contains date, test results, and calculations of all such monitoring, surveillance, testing or measurement conducted since Turkey Point began nuclear operations.

9-4. Using the procedures in Regulatory Guide 1-109, specify the amount of radioactivity in curies that may be released from each of the following sources:

A. The operating reactor.

B. The reactor buildings.

C. Steam generators in transit.

D. Gaseous emissions.

E. Construction dust.

F. Airborne particulates.

G. Cooling canal water.

H. Decontamination liquids.

I. Liquid construction effluent.

J. Laundry wastes.

K. Primary coolant.

L. Processed primary coolant.

M. Stored primary coolant.

N. Fuel movement.

O. Spent fuel movement.

P. Spent fuel pits.

Q. Resins.

R. All filters.

S. Plant-wide run off.

T. Secondary coolant.

U. Storage tanks.

V. Ducts.

W. Radwaste building.

X. Concrete.

Y. Tools.

Z. Clothing.

AA. Scaffolding.

BB. Protective shields.

CC. Work envelopes.

DD. Clean rooms.

EE. Postulated work accidents.

FF. Postulated spills.

9-5. Describe the procedures that will be taken to insure the residual radioactivity on/in the steam generator lower assemblies will be insoluble.

9-6. State the estimated quanity of residual radioactivity in the lower assemblies.

A. State the type of residual radioactivity in the lower assemblies.

B. State the estimated quantity of removable radioactivity in the lower assemblies.

C. State the type of removable radioactivity in the lower assemblies

9-7. Describe disposal methods for removable radioactivity in the lower assemblies.

9-8. Show calculations and data that demonstrate the amount of radio-

activity in curies in each lower assembly.

9-9. State method of derivation of decontamination estimates given for:

A. Mixed bed demineralizer.

B. Boric acid recovery process.

9-10. State the total volume of primary coolant, per reactor to be:

A. Stored and reused.

B. Processed and discharged.

9-11. State the fate of the drained primary coolant.

9-12. What is the nature of the ground water within one mile of the plant?

9-13. What is the depth of the groundwater below the plant?

9-14. State method of calculations of radioactivity in primary coolant based on 1976 sampling.

9-15. Show calculations and data demonstrating how radioactivity in primary coolant would change since 1976.

9-16. What types of airborne radioactivity are HEPA filters unable to eliminate?

9-17. Will the plant purge system be operating during all phases of the repair using plant purge filters? If not, why not?

9-18. Will misters be used in front of all HEPA filters?

A. If not, which filters will have misters?

B. If not, which filters will not have misters?

9-19. Will airborne particulates generated during welding, cutting and grinding be totally contained within the work envelope?

9-20. Will a perfect seal be formed between filter and work envelope?

9-21. Will all lower assemblies be ready for removal from containment before the equipment hatch door is opened and enlarged?

A. If not, will cutting operations be permitted while door is open?

9-22. What is the length of time the cut away concrete will be stored at the plant site before being shipped to final disposal.

9-23. Describe nature of storage containers that will be used for cut away concrete.

9-24. Describe handling and disposal of decontamination fluids during repairs.

9-25. Describe handling and disposal of construction liquid effluent during repairs.

9-26. Describe handling and disposal of sludge from lower assemblies during repairs.

9-27. Describe in detail licensee's contingency plan for protecting the environment from radioactive liquid waste contained in the cooling canals, in the event of a major hurricane which floods and overflows the water in the canals?

9-28. Describe in detail licensee's contingency plan for restoring the environment after release of liquid radioactive waste from the cooling canals as postulated in question 9-27.

CONTENTION 11

11-1 State the method by which the figure of $300,000 per day per unit for replacement power costs for reactor outage was determined.

11-2 State the names, addresses and telephone numbers of the persons who were employed, retained or consulted by the licensee to determine that figure.

11-3 Does the licensee still believe that figure to be accurate?

11-4 If the answer to the above question is "no", state: (a) what you believe the accurate figure to be; (b) the method used to arrive at the new figure; (c) the names, addresses and telephone numbers of the persons who determined the new figure.

11-5 State: (a) the number of days of estimated outage time; (b) the method of determining that time; (c) the names, addresses and telephone numbers of the persons making that estimate.

11-6 What additional land resources will be utilized for the storage of the defective steam generators?

11-7 Have you provided any analysis of the economic and environmental costs for the use of the land which will be utilized for the storage of the defective steam generators?

11-8 If so, please provide the names, addresses and telephone numbers of the persons responsible for that analysis.

11-9 How long will the building housing the defective steam generators remain on the premises?

11-10 How much will the building cost to construct?

11-11 How much will the building cost to dismantle, if it is to be dismantled?

11-12 Have those costs been considered in arriving at the overall repair costs?

11-13 What kind of tubing will be used in the condenser retubing process?

11-14 If titanium is to be used, please state the projected availability and cost of titanium over the next 30 years?

11-15 How much will condenser retubing cost?

11-16 Who provided the estimate of that cost?

11-17 What is the breakdown between cost of materials and of installation for condenser retubing?

11-18 Please list the names, addresses and telephone numbers of the persons employed, retained or consulted to determine the procedures and the cost of condenser retubing.

11-19 Who will supply the materials for condenser retubing?

11-20 Please state the prior installations in the United States of condenser retubing and the operating problems which have occurred in those prior installations.

11-21 Have any updates of costs been made since the initial estimate for the repairs made by the licensee?

II-22 If so, please state: (a) the names, addresses and telephone numbers of the persons making those estimates; and (b) the methods by which those estimates were made.

II-23 Specify whether $ 300,000 a day is a purchase price for replacement electricity or a fuel differential cost between nuclear fuel and fossil fuel.

II-24 Specify fuel costs per barrel, as of November 1, 1979, for:

a. Low sulfer oil.

b. High sulfer oil.

II-25 Project fuel costs per barrel, for the Fall on 1980, for:

a. Low sulfer oil.

b. High sulfer oil.

II-26 Produce current contracts showing oil purchase price.

II-27 Specify nuclear fuel costs, per fuel cycle, per reactor.

II-28 Produce pre 1979 contract for nuclear fuel with the Westinghouse Corporation.

II-29 Produce settlement terms of Licensee/Westinghouse nuclear fuel suit.

II-30 Specify costs and produce fuel contracts which will be in effect for obtaining nuclear fuel from 1980 to 2000.

II-31 If $ 300,000 a day is a fuel differential cost, specify which generating units will supply replacement electricity during steam generator repairs.

II-32 Specify the costs for purchasing 666,000 Kwe. from the Southeastern Reliability power grid for:

a. November 1, 1979.

b. Fall 1980 (projected).

II-33 Provide a job description, task by task, for the skilled and unskilled labor utilized in the condenser retubing effort.

II-34 Provide man hours required for all tasks listed in II-33.

II-35 Specify amount of titanium required for condenser retubing, in kilograms.

II-36 a. State specific percentage rate of increase of costs for repairs, fuel, materials, and labor in November 1979, from 1977 estimated costs of the repair project.

b. State estimated percentage rate increase for repairs, fuel, materials, and labor from Fall 1979 to Fall 1980.

c. If II-36, a, is different than II-36, b, state reasons for change and provide calculations.

II-37 Specify all costs for bringing replacement generating electricity plants from cold standby to on-line generation.

Contention 13

13-1 During the repair of the steam generators, describe the monitoring procedures that will be used including:

a. Provisions for monitoring workers in multiple radiation fields.

b. The type of monitoring equipment that will be used.

c. The use of permanent monitoring systems.

d. The frequency of measurement for all monitoring equipment and systems.

e. The areas that will be monitored.

13-2 State the frequency at which the thermal luminescent dosimeters will be recharged.

13-3 Describe the procedures to be used to measure the accuracy of the TLDs.

13-4 Describe the procedures that will be used to monitor the daily exposure rates for each worker.

13-5 Describe the procedures that will be used to maintain a record of the cumulative doses for each worker.

13-6 For handling, processing, and storing primary coolant describe the radiation monitoring procedures, stating:

a. All locations of the radioactive material.

b. The location of all monitors in relation to the radioactice material.

c. Which monitors will be continuously monitoring.

d. Which monitors will be continuously providing a permanent record of radiation intensity levels.

e. Which monitors will produce an alarm when a specific radiation level is encountered.

f. The set point for each instrument named in 13-6, e.

g. The name of the person, job title, and telephone number or the specific location and telephone number where monitoring alarms are guarded.

h. The name of the person, job title, and telephone number who has the responsibility of overseeing this monitoring operation.

13-7 For monitoring the the handling, processing and discharging of primary coolant, state all information requested in question 13-6, a-h.

13-8 For monitoring the handling, processing, and discharging of laundry waste water, state all information requested in question 13-6, a-h.

13-9 For monitoring releases of radioactivity during the transport of each steam generator lower assembly, state all information as requested in question 13-6, a-h.

13-10 For the storage of all steam generator lower assemblies, state all information as requested in question 13-6, a-h.

13-11 For the handling, storing, processing, and discharging of liquid construction effluent, state all information as requested in question 13-6, a-h.

13-12 For the handling, processing, storing and discharging of decontamination fluids, state all information as requested in question 13-6, a-h.

13-13 For monitoring construction dust during repairs, state all information as requested in question 13-6, a-h.

13-14 For monitoring smoke and fumes, state all information as requested in question 13-6, a-h.

13-15 For monitoring the packaging and transportation of solid waste, state all information as requested in question 13-6, a-h.

13-16 For monitoring the storage of solid waste on site, State all information as requested in question 13-6, a-h.

13-17 For monitoring work envelopes and filter fittings which may leak during construction, state all information as requested in question 13-6, a-h.

13-18 For monitoring radiation that may be released during an accidental fire at the work site, state all information as requested in question 13-6, a-h.

13-19 Describe procedures and equipment for monitoring ingested radioactivity by all plant personnel.

Contention 14

14-1 Specify the experience each member of the fire brigade team has gained, other than in the employment of the licensee, stating:

a. The amount of firefighting experience.

b. The location of the firefighting experience.

c. The amount of firefighting training.

d. The location of the firefighting training.

e. The type of firefighting training.

14-2 a. State the number of individuals presently on the fire brigade team.

b. How many of those individuals have received a Florida Certificate in Fire Training (200 hours).

I4-3 List the fire training procedures implemented at Turkey Point, including:

a. Who will conduct the training of personnel.

b. Educational background and qualifications of the trainer.

c. What firefighting procedures are covered.

d. Identify books, documents, and papers used in training by Author, title, date of publication, and publisher.

e. Frequency of training classes.

f. Total hours of each class.

g. List duties of fire brigade members during:

1. Postulated fires.

2. Announced fire drills.

3. Unannounced fire drills.

h. Specify frequency of announced fire drills.

i. Specify frequency of unannounced fire drills.

j. Specify if brigade members are trained in first aid.

1. If so, list areas covered in first aid training.

2. If so, give educational background and qualifications of trainer.

3. If not, specify regulations or guidelines that permit fire brigade members not to be trained in first aid.

14-4 a. List the available exits from the containment building during the repair operation.

b. Describe the accessability of these exits during the different major repair operations where large workforces will be in the containment.

c. List approximate times needed to evacuate personnel from containment during repair operations:

1. Under normal situations.

2. Under emergency situations.

14-5 Will the NRC regulatios of June 8, 1979 concerning fire safety, brigade size, and training be implemented for the proposed repairs ?

a. If so, state name and job title of person responsible for implementing procedures.

b. Which of the June 8, 1979 regulations will not apply to the repair project.

14-6 Will the portable foam unit be stored inside the containment during the repair effort ?

a. Where will it be located ?

b. Describe how it is transported to a fire location.

c. How many persons will transportation of the portable foam unit require, to move to fire locations.

d. Will the persons involved in this transportation be fire brigade members ?

e. If 14-6, d, is yes, describe the duties of the remaining members of the fire brigade team should a major fire exist.

14-7 List all fire extinguishers available during cutting, grinding, and welding operations, including:

a. Location.

b. Size.

c. Type.

d. Range.

e. Duration of discharge.

f. Weight when fully charged.

g. Extinguishing agent.

h. Date of last recharge.

i. Travel distance to the containment.

j. Travel time to the containment.

14-8 Provide information and documentation in answering the following questions pertaining to the "specially designed envelopes" to be used when cutting, grinding, and welding. State:

a. The fire retardant agents in the material of these envelopes.

b. The principal material composing these envelopes.

c. Melting temperature of these envelopes.

d. Ignition temperature.

e. The toxic agents in fumes when ignited.

f. The potential danger to a worker caught inside an envelope in a flash fire

g. Procedures for ingress and egress.

h. Whether a mister will be used on the HEPA filters on these envelopes.

14-9 Describe the dangers of accidental radiation exposure if a major fire should encompass a cut steam generator with its internals exposed. State:

a. An inventory of the exposed isotopes.

b. Maximum concentration of radioactivity airborne in containment.

c. Maximum amount of airborne radioactivity that can pass through a respirator per minute.

14-10 Describe procedures for venting smoke from envelopes.

14-11 Describe procedures for venting smoke and fumes from containment caused by:

a. Cutting welding and grinding operations.

b. Accidental fire.

14-12 Specify qualifications for fire watch personnel during cutting, welding, and grinding operations.

a. What other duties will the fire watch person assume during cutting, welding and grinding operations?

b. Describe in detail the fire watch procedure.

c. Will the fire watch person also be a member of the fire brigade team ?

14-13 State the flashpoint of the radiation protective clothing.

a. Specify the composition of any toxic fumes that may be given off when the radiation protective clothing catches fire.

14-14 State the flashpoint of the breathing apparatus that will be in use during cutting, welding, and grinding operations.

a. Specify the composition of any toxic fumes that may be given off when the breathing apparatus catches fire.

b. Specify the composition of any toxic fumes that may be given off when the breathing apparatus melts.

14-15 List the available fire breathing apparatus units available during steam generator repairs. State:

a. The type.

b. The quantity.

c. The capacity.

d. The weight.

e. The size.

f. The locations where stored.

g. The travel distance from the various locations to the containment.

h. The travel time from the various locations to the containment.

14-16 List all firehose nozzles available during steam generator repairs. State:

a. The quantity of nozzles that can be used inside the containment.

b. The quantity of nozzles that cannot be used inside the containment.

c. The locations of both types of nozzles.

d. The flow rate for each type of nozzle.

14-17 List all firehoses available during steam generator repairs. State:

a. The location of the hoses.

b. The quantity of hose at each location.

c. The capacity of the hoses.

d. The pounds of pressure and flow rate for each hose, with fire water pumps operating.

e. The pounds of pressure and the flow rate for each hose without the fire water pumps operating.

14-18 Are all hose and nozzle coupling threads interchangable ?

a. If not, state reasons for not being interchangable.

14-19 Describe the system of fire signals in use during steam generator repairs. State:

a. Locations of phones within the containment.

b. Locations of fire pull boxes within the containment.

c. The other methods of reporting fires within the containment.

d. The person or place that receives the fire signals.

e. The procedures that follow after a fire signal has been received.

14-20 Are special suits, for fighting fires containing radioactivity, available at Turkey Point ?

a. List quantities and locations where suits are stored.

b. Do local fire units assigned to aid Turkey Point posses radiation fire fighting suits ?

If not, state reasons for negative answer.

I4-21 State most recent date the commanders of Fire station 5, 6, 16, and Homestead AFB toured Turkey Point.

a. What is the frequency of familiarization tours for the commanders of assisting fire stations?

I4-22 State the information and procedures the Licensee has transmitted to the commanders of the assisting fire stations.

I4-23 Do the assisting fire stations have a written plan of the Licensees fire fighting procedures ?

I4-24 Describe the procedures the Licensee will employ in assisting outside fire personnel once they arrive.

a. What person will coordinate the fire fighting effort.

I4-25 State reasons for not installing a "Standpipe System" within the containments.

I4-26 In the letter of June 5, 1978, from the NRC to the Licensee it is stated, "All personnel assigned to the fire brigade would have to fulfill all applicable training requirements".

a. State the requirements.

b. How often are they implemented ?

c. What portions of the requirements must be fulfilled before an individual can be assigned to the fire brigade..

Respectfully submitted,

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By Richard A. Marshall, Jr.
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Dated at Miami, Florida
this 27 th day of October, 1979.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the matter of	)	Docket Nos. 50-250
FLORIDA POWER AND LIGHT COMPANY	)	50-251
(Turkey Point Nuclear Generating	)	(Proposed Amendments to
Units Nos. 3 and 4)	)	Facility Operating License
	)	to permit Steam Generator
	)	Repair)

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that copies of "INTERVENOR MARK P. ONCAVAGE'S INTERROGATORIES TO, AND REQUEST FOR THE PRODUCTION OF DOCUMENTS FROM, LICENSEE FLORIDA POWER AND LIGHT COMPANY" in the above captioned proceeding have been served on the following by deposit in the United States Mail, first class, this 27th day of October, 1979.

Elizabeth S. Bowers, Esq.
Chairperson
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U.S. Nuclear Regulatory Commission
Washington, D. C. 20555

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Dr. Emmeth A. Luebke
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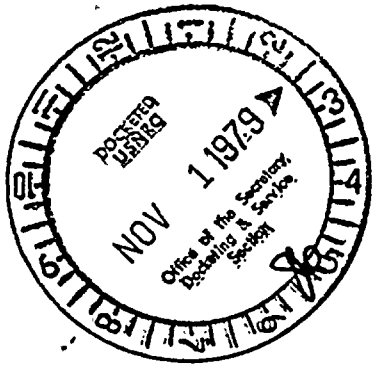

Atomic Safety and Licensing Appeal Board Panel
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