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From: <JL3353@aol.com>
To: <TurkeyPointEIS@nrc.gov>
Date: Thu, Dec 21, 2000 1:17 PM
Subject: Lorion's request for contentions to be part of scoping.

To whom it may concern,

I hereby file this supplement of contentions dated December 21, 2000 to be included along with my comments at the December 6, 2000 public meeting and my November 22, 2000 Request for Hearing that I submitted that day as my comments on the Turkey Point scoping process.

Sincerely,

Joette Lorion
(305) 281-0429

Template = ADM-013

E-RIDS-ADM-03
Add = E. Hylton (EEH)

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	Docket Nos. 50-250-LR
Florida Power & Light Company	)	50-251-LR
)		ASLBP No. 01-786-03-LR
	)	
Turkey Point Units 3 & 4	)	

PETITIONER LORION'S SUPPLEMENTAL FILING OF CONTENTIONS TO HER REQUEST FOR HEARING AND PETITION FOR LEAVE TO INTERVENE

Pursuant to the Atomic Safety and Licensing Board Order dated December 1, 2000, Petitioner Joette Lorion, hereby proffers her contentions as follows. Petitioner Lorion incorporates by reference and realleges, as if written herein, the entirety of the Contentions and support thereof detailed in her original Request for Hearing and Petition for Leave to Intervene dated November 22, 2000 and her testimony at the NRC scoping meeting held on December 6, 2000. Petitioner Lorion contends that her Request for Hearing shows that she has met the standing requirements and further submits that the only means whereby her interests will be protected is through her participation in these proceedings, because other parties do not share her broad interest and experience concerning protection of the unique South Florida environment. She believes that the broad experience on environmental and nuclear power issues that she has developed through decades of participation in the administrative process will assist the Board in developing a sound record and will not cause a delay in the proceedings. Petitioner Lorion, whose request to file her contentions 15 days before the Prehearing Conference as contemplated by 10 C.F.R. 2.714(b)(1) was denied by the Board on December 14, 2000, has done her best under the circumstances to finalize her contentions and hereby supplements her Request for Hearing and Petition for Leave Intervene to as follows:

CONTENTION 1: The bifurcated, simultaneous NRC Relicensing Process does not comply with the National Environmental Policy Act (NEPA). The NRC's failure to prepare a site-specific SEIS and take the requisite "hard look" necessary to evaluate the consequences of this major federal action and alternatives to the proposed action <u>prior</u> to commencing the relicensing process under 10 C.F.R. Part 54 prejudices the process and will not result in the " hard look" that NEPA requires.

The National Environmental Policy Act of 1969 (NEPA), 42 U.S.C. 4321 et seq., "is our basic national charter for the protection of the environment. NEPA aims to achieve these goals by focusing the attention of the federal government decision-makers and the public on the likely environmental consequences of a proposed federal action so that the environmental effects can be identified and understood before the action is implemented and potential negative environmental impacts can thus be avoided. Marsh v. Oregon Natural resources Council, 490 U.S. 360, 371 (1989). (Emphasis supplied.) **"[T]he comprehensive "hard look" mandated by Congress and required by the statute must be timely, and it must be taken objectively and in good faith, not as an exercise in form over substance, and not as a subterfuge designed to rationalize a decision already made."** Metcalf v. Daley, 214 F.3d 1135, 2000 WL 732909, (9th Cir. 2000). (Emphasis supplied). This comprehensive hard look mandated by Congress and required by the statute ***must be timely***, and it must be taken ***objectively*** **and** ***in good faith.*** The statute is "primarily procedural," and courts have held that **"agency action taken without observance of the procedure required by law will be set aside."** Save the Yaak, 840 F.2d at 717. **(Emphasis supplied.)**

Like all federal agencies, the NRC is required to implement the policies of NEPA in its decision making. See 42 U.S.C. § 4332; 40 C.F.R. § 1507.1. NEPA requires the NRC to prepare an Environmental Impact Statement (EIS) prior to any "major federal action significantly affecting the quality of the human environment." 42 U.S.C. 4332(C). Renewal of an operating license for the Turkey Point Nuclear Power plants is identified under 10 C.F.R. Part 51 as a major federal action significantly affecting the quality of the human environment, within the meaning and provisions of the National Environmental Policy Act ("NEPA"), 42 U.S.C. § 4332(2)(C). As such, the NRC has a statutory obligation to take procedural steps to assess the environmental damage that renewing the operating licenses for up to 20 years beyond the 40 year term of the initial license could inflict.

The NRC avers to meet its NEPA requirements by conducting a bifurcated process in which it purports to analyze environmental impacts in a generic process under 10 C.F.R. Parts 51, while simultaneously conducting relicensing activities under 10 C.F.R. Part 54. The NRC proposes to conduct only a site-specific supplement to a generic EIS, rather than a site-specific SEIS that should include a review of the original Turkey Point Final Environmental Statement (FES). The NRC has failed to prepare, publish, and seek public comment on a site-specific SEIS prior to commencing other costly activities in the relicensing process, as required by NEPA. The NRC's streamlining of the process under 10 C.F.R. Part 51, so that it can conduct an environmental analysis concurrent with a relicensing process is prejudicial and will not allow a meaningful choice among alternatives.

The NRC's claim that it will meet NEPA requirements by conducting a generic SEIS concurrent with the licensing process fails to acknowledge that not only is an environmental impact assessment required, it must be "**prepared early by such an agency...so that it can serve**

practically as an important contribution to the decision-making process and will not be used to rationalize or justify decisions already made." 40 C.F.R. § 1502.5. Petitioner contends that this so-called "relicensing" proceeding should be treated as though it is a new request for an initial construction permit and operating license. The fact that these power plants are already constructed should not limit the range of alternatives studied or predetermine the results.

A full and objective site-specific EIS or SEIS should be conducted prior to an investment of considerable time and resources in the relicensing process, especially since the Licensee has twelve years before its original license expires. *Post hoc* rationalizations cannot support an affirmance of an agency decision based on an otherwise invalid rationale. *See, e.g.* Citizens to Preserve Overton Park v. Volpe, Inc., 401 U.S. 402, 419-20 (1971). As the Supreme Court stated in City of Kansas City v. Department of Hous. & Urban Dev., 923 F.2d 188 (D.C. Cir. 1991), "[i]n whatever context we defer to agencies, we do so with the understanding that the object of our deference is the result of agency decision making, and not some *post hoc* rationale developed as part of a litigation strategy." *Id* at 92.

Section 1502.2 states that, "agencies shall not commit resources prejudicing selection of alternatives before making a final decision (1506.1)." 40 C.F.R. 1502.2(f). The Commission's conducting of the relicensing review under 10 C.F.R Part 54, while at the same time averring to conduct an objective NEPA process under 10 C.F.R. Part 51, raises a serious question as to whether the objective "hard look" at alternatives required by NEPA can possibly be met. Petitioner contends that it cannot, because the NRC's bifurcated, simultaneous, generic process commits time and resources to the relicensing process and will prejudice the Commission's evaluation of the environmental impact of the relicensing proposal, including the analysis of alternatives. Petitioner requests that the Board take a hard look at the NEPA issue now, because a federal court challenge later alleging procedural violations of NEPA could result in a court vacating the Board's final decision on this proposed project.

Documents Petitioner will rely on include the Final Environmental Statement on the Turkey Point Plant dated July 1972; NUREG 1437, Volumes 1 and 2; and the NEPA cases cited herein and in Petitioner's Request for Hearing.

CONTENTION 2: Significant 'new circumstances' and "new information" requires that the NRC conduct a site-specific SEIS on Turkey Point before 10 C.F.R. Part 54 activities begin.

NEPA requires an agency to prepare a supplemental EIS (SEIS) if "there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed actions or its impacts." (40 C.F.R. 1502.9(c)(1).) Petitioner contends that "significant new information" requires the NRC to conduct a site-specific Supplemental Environmental Impact Statement (SEIS) (not generic) that includes a review of the original EIS that was conducted on Turkey Point in July 1972 before irretrievably committing resources under 10 C.F.R Part 54. The

original EIS on Turkey Point does not address "substantial environmental issues," such as the proposed project's impact on the 7.8 billion dollar Everglades restoration effort, the largest environmental repair job in human history. Nor does the Licensee's current Environmental Report discuss the proposed action's impact on this important Congressionally authorized project.

Government support for Everglades restoration, and the clearly defined federal interest in the protection of Biscayne National Park, Everglades National Park, the Big Cypress National Preserve, and Miccosukee Indian Reservation, along with the endangered and threatened species that inhabit these lands, changes the likely environmental harms by a "considerable magnitude" and could significantly alter the costs and benefits of the proposed project. The Everglades Restoration Bill recently passed by Congress discussed the environmental importance of the area surrounding the Homestead Airbase located in the vicinity of Turkey Point. In authorizing the restoration plan, Congress demonstrated the federal government's commitment to protection of the fragile environment in this area, including Everglades National Park located fifteen miles west of Turkey Point and Biscayne National Park located two miles from Turkey Point. This significant new information, and the clear Congressional intent concerning the protection of the Everglades ecosystem, seriously alters the environmental picture and demands that a site-specific SEIS on the significant impact that the proposed project may have on the human environment around Turkey Point nuclear power plant be conducted. "[G]eneral statements about "possible" effects and "some risk" do not constitute a "hard look" absent a justification regarding why more definitive information could not be provided." Neighbors of Cuddy Mountain v. United States Forest Service, 137 F.3d. 1372, 1380 (9th Cir. 1998).

Additionally, there are other issues not adequately addressed, or not addressed at all, in the original FES on Turkey Point dated July 1972 or in the Licensee's Environmental Report submitted in support of this proposed action. These issues include, but are not limited to the following: the intense population growth and ability to evacuate in the case of a or hurricane; the siting of Turkey Point in a hurricane zone in light of Hurricane Andrew, the proposed siting of a large commercial airport within five miles of the plant, the siting a few years back of a school two miles from the plant.

NEPA also requires the consideration of "cumulative impacts" in assessing the proposed action, such as the impact that radioactive emissions from the plant during routine operations may have had or may have in the future, on wildlife and the human environment. Petitioner also raised other issues at the December 6th scoping meeting, including environmental justice issues concerning the environmental justice impact on the Miccosukee and Seminole Indians, and potential socio-economic issues concerning the reliability of power generating sources if the Licensee relies on Turkey Point to meet future power needs and is forced to derate or close the nuclear units due to age-related safety or economic concerns. The SEIS should also review

groundwater/drinking water pathways and the unique fact that the Biscayne Aquifer is an EPA designated sole source drinking water supply for millions of people in South Florida.

The NRC's completion of a full and objective EIS must also include a full study of alternatives to the proposed action prior to an irretrievable investment of resources. NEPA requires not merely a detailed statement of alternatives but also presentation of environmental risks incidental to reasonable alternative courses of action...and they should not be limited to measures which a particular agency or official can adopt."NRDC v. Morton, 458 F .2d (1972). Such an objective review of alternatives and their environmental risks could preclude the need to conduct the expensive and time consuming relicensing process by substituting a more environmentally friendly alternative for the operation of this aged nuclear power plant located in one of the most environmentally sensitive areas in the world.

Finally, for all the above reasons and for those contained in her Request for Hearing, Petitioner requests pursuant to 10 C.F.R. Part 2.758, that the NRC waive its rule on generic environmental impact statements in this relicensing proceeding, because the relicensing of Turkey Point involves special circumstances and significant new information that would cause the application of the rule to not serve its intended purpose of assessing the environmental impacts of the proposed action on the fragile South Florida environment.
Documents Petitioner will rely on include the FES on Turkey Point dated July 1972; the Licensee's Environmental Report; NUREG 1437, Volumes 1 and 2; and the cases relied on in the Request for Hearing; WRDA 2000; the Final Environmental Impact Statement on Disposal of portions of the Homestead Air Force Base, December 2000; the Final Environmental Impact Statement on the Central and Southern Florida Project Comprehensive Review Study dated April 1998.

CONTENTION 3: Under the Endangered Species Act, the NRC must consult with the FWS on how the proposed action could adversely impact threatened and endangered species within at least a fifty mile radius of the Turkey Point plant prior to conducting relicensing activities.

Over 64 threatened and endangered species inhabit the South Florida Ecosystem, more than any state except California. The proposed action could adversely impact many of these species and subspecies. The NEPA process requires compliance with the Endangered Species Act (ESA), 16, U.S.C. 1531 et seq. The ESA dictates that federal agencies shall "utilize their authorities in furtherance of the purposes of the ESA...by carrying out programs for the conservation of endangered and threatened species listed." 16 U.S.C. 1536 (a). In particular, all federal agencies that plan, undertake, or authorize actions that "may affect" listed species or critical habitat must consult with the U.S. Fish and Wildlife Service, or other relevant agency, to insure that any action authorized, funded, or carried out by such any agency...is not likely to jeopardize the continued existence of any endangered or threatened species, or result in the

destruction or adverse modification of habitat of such species...." 16 U.S.C. 1536 (a) (2).

The Licensee sent a brief letter to the Fish and Wildlife Service (FWS) about the proposed action that asks that the agency only look at the endangered and threatened species within the immediate vicinity of the Turkey Point Plant. (See Licensee's Environmental Report). The NRC has not conducted the required consultation with FWS prior to proposing to expend substantial resources in the relicensing process. As the July 5, 2000, letter from Jay Slack of FWS to FPL stated, "The ultimate responsibility for Section 7 obligations remains with the federal action agency. This letter does not fulfill requirements of interagency section 7 consultation for the project. "

Petitioner contends that the NRC is required to consult with FWS under Section 7, and that the ESA requires that they ask the FWS to study the impact that offsite consequences, including accidents, could have on a at least a fifty mile radius of the plant. (See Licensee's Environmental Report, page G-17, Revision 1.) The NRC must not limit their review to the area directly surrounding the plant as the Licensee has. There are a myriad of threatened and endangered species that inhabit this vast ecosystem, and move from one part of the ecosystem to another, that could be adversely affected by the proposed action and any offsite consequences resulting from the proposed action.

Documents that Petitioner intends to rely on include the Licensee's Environmental Report and Correspondence with FWS, the Multi-Species Recovery Plan, WRDA 2000, Licensee's Environmental Report and Application.

CONTENTION 4: The NRC should require that the Licensee perform an analysis based on plant-specific surveillance capsule test data, and plant-specific operating history, for both Turkey Point Units 3 and 4, because the rate at which the beltline weld material deteriorates and/or embrittles is plant specific. Such a plant-specific analysis is necessary to prove that an acceptable margin of safety exists for the reactor vessels in both Turkey Point Units 3 and 4 that will enable them to meet the requirements of 10 CFR 50.61 and 10 CFR (c)(1)(ii) during the period of extended operation, because the additional twenty years of operation will cause increased neutron radiation damage to the reactor vessel welds that could further decrease the margin of safety, thereby increasing the probability that a pressurized thermal shock even and resultant meltdown could take place at Turkey Point Unit 3 or 4, either as a result of an internal event or an external event , such as a hurricane, if fracture toughness is not maintained. In the event that such an accident occurs in a hurricane in which emergency response capability is curtailed or restricted, the consequences to the public could also be increased.

10 C.F.R. Part 50.61, "Fracture Toughness for Protection Against Pressurized Thermal Shock Events," requires that the Licensee evaluate the reactor vessel beltline materials against specific criteria to ensure protection against brittle fracture. As evidenced by the shutdown of the

Yankee Rowe plant, the toughness of the reactor pressure vessel may well determine the operating life of the nuclear reactor both for economic and safety reasons. Turkey Point has been named on NRC lists of reactors that are susceptible to embrittlement.

The Licensee's application states on page 4.2-4 that, "The Turkey Point circumferential weld material previously fell below the 10 C.FR. 50, Appendix G requirement of 50 ft-lb," but "a fracture mechanics evaluation was performed to demonstrate acceptable equivalent margins of safety against fracture." Page 4.2.3 of the Licensee's Application also contains the calculated RTPTS values for the Turkey Point reactor vessels at the end of the period of extended operation. The Licensee predicts an RTPTS value of 297.4F for the circumferential weld for both reactors, which is at the extreme high end of the 10 C.F.R. Part 50.61(b)(2) screening criteria of 300F. This page does not contain information on the margin of error or confidence level associated with this figure. Petitioner contends that plant-specific testing and an analyses based on plant-specific operating history may show that one or both of these reactor vessels, which are the main line of defense against a meltdown accident, are more embrittled than the Licensee's current analyses indicates and that the multiple failure of aging components, including a hurricane induced failure of such components, could increase the probability and possibility of a pressurized thermal shock accident that could result in severe offsite radiological consequences.

Additionally, since the 297.4F figure is the same for both reactor units, it appears that the Licensee may be continuing to use data from Unit 3 to predict the safe operation of Unit 4. If so, this practice was criticized by Dr. George Sih, a Professor of Fracture Mechanics and metallurgist at Lehigh University, in a letter to Petitioner dated 1985. This letter concerns a report by Southwest Research Institute that conducted an analysis of the Capsule T weld metal sample from Turkey Point Unit 4. A review of that analysis by Dr George Sih that the shift in RTNDT for Unit 4 was 324 at approximately 8 EFPY. Dr. Sih also stated that "the rate at which the beltline weld material deteriorates and/or embrittles is plant-specific and that conclusions drawn on RTNDT for Unit 4 based on Unit 3 cannot be considered valid." As Petitioner recalls, SWRI suggested that the Licensee repeat the weld metal sample test on Unit 4 in a few years due to their findings. To the best of Petitioner's knowledge, the Licensee did not conduct the suggested test to the site-specific weld metal sample material a few years later, which along with the archival information on this plant-specific material and operating history would appear to be the <u>best evidence</u> of the true condition of the respective Turkey Point Unit 3 and 4 reactor vessels.

To Petitioner's recollection, the Licensee was supposed to test the samples in the year 2000, but Petitioner's questions at the public NRC hearing on Turkey Point scoping on December 6th to both the NRC and the Licensee remained unanswered. Since she has not been told otherwise, Petitioner will assume that the Licensee is not relying on recent plant specific

surveillance data to calculate RTNDT, and if not, she is concerned that this could result in the underestimating the amount of the embrittlement and fracture toughness for the respective Turkey Point units. Petitioner contends that the NRC should instruct the Licensee to rely on plant-specific surveillance data to calculate delta RTNDT, as defined in Section 4.2 of the Draft Standard Review Plan for the Review of License Renewal Applications for Nuclear Power Plants dated April 21,2000. This methodology requires that two sets of surveillance data and would require another testing weld metal samples from each of the reactor units. Credible plant-specific surveillance data should be used to determine whether both the Turkey Point Unit 3 and Turkey Point Unit 4 will meet 10 C.F.R Part 61 for the extended period of operation. It is in the public interest to conduct reactor-specific weld metal tests that show the true condition of the Turkey Point Unit 3 and 4 reactor pressure vessels before continuing with the relicensing process.

In the interest of the public health and safety, the NRC should instruct the Licensee to test weld samples from Units 3 and Unit 4 to prove that the Charpy upper shelf energy in both Turkey Point Units 3 and 4 is above 50 ft-lbs, or that the lower values of upper shelf energy would provide margins of safety equivalent to those required by Appendix G throughout the extended life of the plant before allowing the relicensing process to continue. Just as the proof is in the pudding, the proof of the fracture toughness of the reactor vessels is in the plant-specific weld metal samples with their plant-specific nickel and copper contents that are contained inside Turkey Point Units 3 and 4. (FPL has responded to Sierra Club inquiries that 8 original samples of reactor vessel material and 4 weld capsules are still in the reactor.) Such a plant-specific test is necessary, not only to protect the public health and safety, but also for the cost benefit analysis of alternatives required by NEPA, since the replacement cost of the reactor vessel would be prohibitive and annealing would create further environmental issues. (See Licensee's Environmental Report pages F.2-38 and F.2-64.) It is my understanding that no nuclear power plant has ever replaced its vessel and that the costs of annealing a vessel are prohibitive. Documents Petitioner intends to rely on include letter from Dr. George Sih to Martin Hodder dated October 10, 1985, E.B. Norris, "Reactor Vessel Material Surveillance Program for Turkey Point Unit No. 4: Analysis of Capsule T", Southwest Research Institute Technical Report No. 02-4221, June 1976; Letter from Uhrig, FPL, to Eisenhut, NRC, "Re: Turkey Point Unit No. 4, Docket Nos. 50-251, PTS to Reactor Pressure Vessels", January 21, 1982; the Licensee's Application and Environmental Report; Standard Review Plan for the Review of License Renewal Applications for Nuclear Power Plants dated April 21, 2000; Pallisades Plant-Reactor Vessel Fluence Evaluation dated November 14, 2000; 10 CFR 50.61, "Fracture Toughness Requirements for Protection Against Pressurized Thermal Shock Events;" and 10 CFR Part 50, Appendix G, " Fracture Toughness Requirements;" 10 CFR Part 50 Appendix H, "Reactor Vessel Material Surveillance Program Requirements." Petitioner intends to supplement this list with archival documents as they become available.

CONTENTION 5: "The age-related degradation of multiple components could increase the chance that several components in the reactor and/or spent fuel pool, could fail simultaneously during a hurricane, thereby reducing the margin of safety of the plant and increasing the probability of an age-related accident and resultant radiological emergency that would have an extremely adverse impact on the human environment. The probability of a hurricane's (including a beyond design basis hurricane's) impact on deteriorated plant structures and components and its contribution to risk should be analyzed and discussed in quantitative terms by the Licensee in their application or environmental report to meet the requirements of 10 C.F.R. 50.4(a)(1) and also in a site-specific SEIS under NEPA.

The GAO Report, Nuclear Regulation: Preventing Problem Plants Requires More Effective NRC Action stated, "The concept of defense-in-depth forms the foundation of NRC's confidence that nuclear plants are safe, even those that may be shut down for safety problems." NUREG appears to show that this defense-in-depth could be compromised in aging plants. NUREG states on page 5-10 that the "potential effects of deterioration of plant components due to physical processes such as corrosion, erosion, mechanical wear and embrittlement could result in the increased likelihood of component or structure failure. These increased failures in turn could lead to a higher frequency of accidents with more sever consequences." It does not appear that either the Licensee nor the NRC have analyzed whether the effects of aging will be adequately managed so that the structures and components will be maintained in the event of an external event hurricane, or beyond design basis hurricane, for the period of extended operation.

The fact that the Turkey Point reactors are located in a hurricane region presents "special circumstances" in that the radiological threat from such an accident would be potentially greater than for another plant because of the inability to evacuate. In the case of a maximum hurricane, it is essential to ensure that critical components do not lose the ability to perform their intended safety function. Age related stress, corrosion and metal fatigue of both safety related and non-safety related equipment could make Turkey Point more susceptible to hurricane induced damage and make the risk, probability, and magnitude of a radiological accident more severe than other plants. 10 C.F.R. 50.4 (a) (1) (1984) requires that "no operating license for a nuclear reactor will be issued unless there is a finding made by the NRC that there is reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency."

Petitioner contends that the operation of the aged Turkey Point beyond its original license could increase the risk that a hurricane could cause an age-related accident and radiological emergency and complicate emergency response, thereby making an accident more likely and the results more catastrophic. Turkey Point is located in an area of high hurricane activity. In 1992, a direct hit by Hurricane Andrew caused extensive damage to the plant and the surrounding area was unable to evacuate if it had become necessary. Hurricanes are "frequently

occurring natural phenomena" in an area that has a hurricane season, thus accidents that could be caused by them, or occur contemporaneously with them, are not remote or highly speculative. Neither is the already proven possibility that such an event could disrupt offsite emergency response, thereby causing potentially serious consequences to public health and safety. The probability of a hurricanes impact on age-degraded components and structures and its contribution to risk should also be analyzed in a site specific SEIS under NEPA.

Petitioner notes that the offsite exposure risk of 10.88 person-rem for a radiological accident has been "converted to a monetary equivalent (dollars) via application of the NRC's conversion factor of $2,000 per person-rem." According to the Licensee's Environmental Report, " The level 3 analysis shows an annual offsite economic risk of $22,850," and their "Estimated Present Dollar Value Equivalent for Severe Accidents at Turkey Point Units 3 & 4" for the offsite population dose is $234,207. Besides being extremely tasteless, the dollar figure in the Licensee's Report appears to be ridiculously low.

Documents that Petitioner will use include the Licensee's Application and Environmental Report; NUREG 1437 Volume 1; the Draft Standard Review Plan for the Review of License Renewal Applications for Nuclear Power Plants dated April 21, 2000; the NRC Report on the Effect of Hurricane Andrew dated 1992; Unusual Event Report for Turkey Point October 24, 1992; NRC Information Notice 93-53 dated July 20, 1993; GAO Report GAO/RCED-97-145 entitled Preventing Problem Plants Requires More Effective NRC Action dated May 1997; Article entitled "Nuclear Plant Aging: A Loaded Gun..." Energy Daily dated August 31, 1988; 10 C.F.R. 50.4(a)(1).

CONTENTION 6: The Licensee's Projections for the rapidly growing South Florida population that will occur during the extended license period increases risk and requires the Licensee to conduct a Probabalistic Risk Assessment that analyzes emergency response capability to determine whether they can meet the requirements of 10 C.F.R. 50.54(a) in the event of an accident and the requirements of 40 C.F.R. Part 190 and the proposed 40 C.F.R. Part 61 to protect the public from potential high and lower level exposures and resultant health risk. Additionally, the environmental impacts, including environmental pathways, that could result from of a severe accident taking place at the Turkey Point plant, a Bay/Ocean plant, must be analyzed in a site-specific SEIS as required by NEPA.

The South Florida population has increased dramatically since Turkey Point was built. According to the Licensee's application, there is a high population of 2,572,526 people presently living within 50 miles of the Turkey Point plants. And, according to a chart entitled "Regional Population Distribution Year 2025," there will be 3,952,697 people living in a fifty mile radius of the plant during the license renewal period. This figure appears to be much lower than other figures that have been cited for estimated population growth in South Florida. Additionally, the current proposal to build a commercial airport at the Homestead Air Base site would greatly

increase the population in the vicinity of the plant and could stress the evacuation capability of the surrounding community.

NUREG 1437, Vol. 1, Page 5-11 states that as "the population around the plant increases, the potential risk and the increase in risk must be specifically examined. The NRC must require the Licensee to demonstrate that the population in the rapidly growing South Florida area that is in the path of the highest frequency wind direction could safely evacuate in the event of a nuclear accident during the extended twenty year operation before relicensing this plant as required by 10 C.F.R.50.4(a)(1). Such an analysis should include an accident in which a hurricane (an external event) effectively eliminates or prolongs emergency response. According to NUREG 1437, Volume 1, page 5-17, success of evacuation depends on the warning time available and the time it takes to carry out the evacuation. The NRC is aware that Turkey Point is a coastal/ocean plant with shoreline, aquatic and drinking water pathways, and that contaminants from an accident would be deposited on an open body of water that could increase the dose to the population after the accident. According to NUREG-0769, Addendum I; NUREG-0440, interdiction has the potential to reduce the dose by factors of from 2 to 10. Interdiction, which according to NUREG-1437, page 5-63, could consist of "preventing use of the water or making contaminated food difficult to obtain" may be difficult at this site on Biscayne Bay. The GEIS page 5-94 states that ocean and estuarine sites would be the hardest to effect interdiction because of the food pathway." Additionally, the analysis should consider that the permeable Biscayne Aquifer is an EPA designated sole source of drinking water for millions of people in South Florida.

Petitioner contends that the NRC should analyze whether the dose from an accident at Turkey Point could exceed those in Section 5 of NUREG 1437, Volume 1 in a site-specific SEIS. For instance, Section 5.3.3.4.5 entitled "Ocean Sites" says that Seabrook has the "potential for producing a larger maximum individual dose than that of the LPGS generic ocean site" because of the high shoreline user rates and large annual seafood catch. It further states that "the uninterdicted total population dose estimate for Seabrook is 6 times that of the LPGS generic ocean site. Page 5-85 of the GEIS says that based on certain site specific assumptions, "it can be concluded that Seabrook represents the largest uninterdicted population dose at ocean sites other than Turkey Point." It does not appear that Turkey Point was part of the "Current ocean site severe liquid pathway analyses compared with Liquid Pathway Generic Study (LPGS) results" contained in Table 5.24. Turkey Point does appear in Table 5.25 entitled, "Earlier ocean sites without severe accident liquid analyses compared to Seabrook." This table identifies the location and groundwater pathway for Turkey Point as permeable limestone to a barge canal and the Atlantic Ocean.

Additionally, page 5-95 states that "the Seabrook analysis provides a larger groundwater population dose than all but Turkey Point," but concludes that "the population dose from Turkey

Point at MYR would not be expected to exceed Seabrook." NEPA requires the NRC take a "hard look" and conduct a site-specific analysis to support this statement. It is unclear to Petitioner why Turkey Point, a coastal plant subject to hurricanes, was not included in the current severe accident liquid pathway analyses. Especially since it appears that including it may have altered the generic conclusions in NUREG-1437, Volume 1, concerning radiation exposure risk in the event of a severe reactor accident in which radioactive contaminants are released into the atmosphere and deposited on large bodies of water. Petitioner contends that a site-specific analysis of the environmental impacts of a severe accident at Turkey Point that analyzes aquatic food, shoreline, swimming, air, and surface and groundwater pathways is required under NEPA. Documents Petitioner will rely on include CRAC 2; NUREG 1437, Volume 1; 10 CFR Part 20; 10 CFR part 50, Appendix I; NRC Report on the Effect of Hurricane Andrew; Preliminary Notification of Unusual Event at Turkey Point, August 24 and 25, 1992.

CONTENTION 7: The proposed action will result in twenty years of additional operation that will increase the amount of high-level and low-level nuclear waste. Presently, FPL does not have storage space for the additional high-level waste and appears to be uncertain as to disposal of their low-level waste. The storage of these wastes on site for the extended period of operation could increase the risk of an accidental release to the environment in that Turkey Point is located in a hurricane zone rather than a geologically stable area. If it becomes necessary to store these wastes on site because no permanent burial site has been implemented, the storage of this spent fuel on site could also increase the risk and consequences of a spent fuel pool accident depending on the storage method. The Licensee should be required to demonstrate that they can permanently and safely dispose of both their high level and low-level nuclear waste off-site for the extended operation of the plant. Additionally, the NRC should analyze the potential environmental impact of such a potential accident in a site-specific SEIS.

According to an FPL response to a Sierra Club Miami Group member, there are presently about 1700 spent fuel assemblies being stored at Turkey Point, and they will run out of space for spent fuel in 2010 for Unit 3 and 2011 for Unit 4. According to the Licensee's application, the license for Unit 3 will expire on July 19, 2012 and the Unit 4 license on April 10, 2013. It appears from what FPL told Sierra Club that they do not currently have even enough room to store the high-level wastes created from the original forty year operation of these plants, let alone the wastes from an additional twenty years operation being contemplated by the proposed action. According to this same response from FPL to Sierra Club, Barnwell reportedly could be closed to low-level waste from Florida in the next few years.

The proposed action which would increase both the amount and toxicity of the high-level and low-level nuclear waste that will be created by at least half, and will exceed the plant's original storage capacity for the high-level waste that must be isolated from the environment for

at least ten of thousand of years. Wherever these wastes are stored will have a profound long term effect on the environment. The fact that after over forty years of nuclear power operation, the government still has not implemented a safe and permanent disposal site for high-level nuclear waste, means that, in all likelihood, the high-level waste will remain stored on site at Turkey Point. And, if the Licensee is no longer able to send low-level waste to Barnwell, and another site is not found, low-level waste could also be stored on site. The fact that this is an area of high hurricane frequency could increase the risk and probability that nuclear wastes stored on site could contaminate the human environment and the consequences would be increased if it did. The environmental impacts of such an event should be analyzed in a site specific SEIS.

As was stated in the above discussion of hurricanes, the Turkey Point site presents special circumstances in that the radioactivity in these spent fuel rods being stored on site, and not in the reactor containment building, could be distributed to the environment by a hurricane and age related accident that disrupts emergency response. Such an accident could cause severe and irreversible contamination of the surrounding environment and disrupt emergency response. According to NUREG CR 4982, Severe Accidents in Spent Fuel Pools in Support of Generic Issue 82, worst case accident in a spent fuel pool could result in an interdiction area (an area with such a high level of radiation that it is assumed that it can never be contaminated) of 224 square miles. The potential consequences of a severe accident in the spent fuel pool are so grave that the NRC should not consider the relicensing of the Turkey Point plant that is located in a hurricane zone until the Licensee has demonstrated that they have a permanent, safe disposal facility for both the high level and low-level wastes that will be created by the proposed action. The special circumstances surrounding the Turkey Point site are far too important to be dismissed generically and must be addressed on a site-specific basis.
Documents Petitioner will rely upon include NUREG CR4982, Severe Accidents in Spent Fuel Pools in Support of Generic Issue 82; NRC Report on the Effect of Hurricane Andrew.

CONTENTION 8: Under NEPA, the Licensee must assess any current impact that radiation may be having on the environment surrounding the plant in order to assess the cumulative impact that may result from extending the operating license.

Before the NRC considers relicensing the Turkey Point Reactors, NEPA requires that any impact that the current operation of Turkey Point may be having on the unlined, porous cooling canals and the aquatic and human environment surrounding the plant be analyzed so that any cumulative impact from the extended operations can be assessed. CEQ regulations require that cumulative impacts be analyzed in a single EIS. 40 CFR 1508 25(a)(2). Petitioner contends that a substantial question as to whether the proposed action will have significant cumulative environmental effects exists that requires the NRC to prepare an EIS analyzing such impacts before the action is taken. 40 C.F.R. 1508.27 provides:["Cumulative impact" is the impact on the

environment which results from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.]

Relicensing of the Turkey Point reactors will mean that adverse impacts to the human environment (if occurring) will continue for an additional twenty years beyond the current license period. The impacts that the accumulation and biological magnification of radiation may be having on plant, animal and marine life and the immune system, as well as human health, and the potential cumulative impacts that may occur during the twenty years extended operation must be analyzed both in a site-specific SEIS and this proceeding. The impact of radionuclides and any bioaccumulation or biomagnification that may be occurring in the food chain, marine life, plant, and humans from plant emissions and the coastal disposition and dispersion should be analyzed. This analysis should include research on any build-up of strontium-90 and cesium-137 in the surrounding environment, including Biscayne Bay.

The sediments of the porous, unlined Turkey Point cooling canals should also be analyzed to determine if there has been, or will be, any build-up of tritium and other fission products. The potential radiation exposure through the sand, soil, dust, air, food chain, groundwater and drinking water pathways and aquatic pathways may increase as the plant ages and its life is extended by the relicensing. Analysis of any current impact that may exist, as well as the cumulative impacts that could result from the extended operation, should be the subject of a site specific SEIS, and this proceeding. When agency projects have the potential for cumulative harm an "assessment of connected actions is necessary even if the impact of the proposed action is not significant." Save the Yaak Comm. v. Block, supra, 840 F.2d at 720. Clearly, the potential for cumulative impacts from long-lived radioactive by-products of fission is "significant" under NEPA and must be considered in a site-specific SEIS.

NUREG 1437, Vol. 2, page E-22 states that the National Research Council NAS published a report on the health effects of low-level radiation (BEIR-V) that concluded that the risk of radiation exposure was greater than previously estimated." It is important that the impacts on the local population and environment (if any) be studied and the cumulative impacts of the proposed action before the relicensing action is permitted. It is important that the NRC take advantage of what has been learned about radiation exposure and emissions and investigate the current situation surrounding the plant before making a major commitment to future operation. Documents Petitioner will rely on include the BEIR V Report entitled, "Health effects of exposure to Low Levels of Ionizing Radiation;" and Brookhaven National Laboratory. Radioactive Materials Released from Nuclear Power Plants, 1993; NEPA; 40 C.F.R. 1508.

CONTENTION 9: Under NEPA, the NRC must assess whether the proposed action

conflicts with the federal investment in the Everglades Restoration plan.

Neither the NRC, nor the Licensee, have addressed the important environmental issue of Everglades Restoration, and whether the relicensing of this old nuclear power plant is consistent with this other very important major federal action that will invest more than 8 billion dollars in restoring the South Florida ecosystem. It is clear that an accident at this old Turkey Point power plant that could be caused by what NRC Commissioner Kenneth Rogers once called "nuclear plant aging" has the potential to negate this $8 billion dollar effort, and that the risk and consequences of such an event on this major federal/state government program must be assessed.

According to an article in The Energy Daily dated August 31, 1988, Commissioner Rogers reportedly told a conference on Nuclear Power Plant Aging that the natural process of plant aging increases the chance that several components will fail simultaneously. According to a newspaper report Rogers told the conference that, **"Degradation would decrease the safety margins so that, in essence we have a 'loaded gun' an accident waiting to happen."** It has not been proven that the safety threats posed by plant aging will be averted by the NRC's management of these age related matters. In short, we may still have a loaded gun ready to go off, that if it did, could kill the most ambitious environmental repair job in human history. The probability, risk, and consequences of destroying this major federal action by allowing these old nuclear power plants to continue to operate in the midst of this environmentally sensitive area must be assessed.

Documents Petitioner will rely on include WRDA 2000; the Central and Southern Florida Comprehensive Review Study dated April 1998; NEPA..

CONCLUSION

Petitioner would like to remind the Board that she is merely a concerned citizen who has spent decades attempting to grapple with complex nuclear issues that could adversely affect her, her family and her community. Petitioner contends that the current level of complexity required for a citizen to participate in these proceedings is contrary public's right to participate is issues affecting their local nuclear power plant as allowed by the Atomic Energy Act.

A recent Miami Herald article about the closing of Chernobyl reported that since the accident more than 4,000 cleanup workers have died, 70,000 have been displaced by radiation in the Ukraine, and about 3.4 million people of the Ukraine, including some 1.26 million children, are considered affected by Chernobyl. As Petitioner told an NRC representative at the December 6th meeting, she is only looking for the facts about the relicensing of her backyard nuclear plant As philosopher Jean Rostand once said, **"Our duty to endure gives us the right to know."** Should the scientists at the NRC, or with the Licensee, have facts that they believe would change

Petitioner's mind, she will review them for in the words of Abraham Lincoln, "I shall adopt new views as soon as they appear to be true views."

Finally, Petitioner would like to reiterate her opinion that the NRC License Renewal Process, as currently being implemented, will not provide reasonable assurance that the operation of Turkey Point will not be inimical to the public health and safety to the end of the renewal period as required by the Atomic Energy Act, nor will it protect the fragile environment, as required by the National Environmental Policy Act. The people of South Florida, and the beautiful Everglades ecosystem where they live, should not be the subject of a high stakes nuclear gamble. Or if they are the subject of such a gamble, they are at least entitled to know the risk that they and the Everglades are being subjected to...**Turkey Point can be replaced. The priceless Everglades cannot.** While it is still Petitioner' contention that a site-specific SEIS on the proposed relicensing of Turkey Point should be completed pursuant to 10 C.F.R. Part 51 prior to the commencement of relicensing actions under 10 C.F.R. part 54, she is hopeful that this Board will allow her to Intervene, so that these important public health and safety and environmental concerns will be addressed at a public hearing.

Sincerely,

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Dated: December 21, 2000
cc TurkeyPointEIS@NRC.gov

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of	)	
	)	Docket Nos. 50-250-LR
Florida Power & Light Company	)	50-251-LR
	)	ASLBP No. 01-786-03-LR
	)	
Turkey Point Units 3 & 4	)	

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing Petitioner Lorion's Supplemental Filing of Contentions in the above captioned proceeding, dated December 21, 2000, has been served upon the following persons by U.S. mail, first class, by e-mail distribution, and fed-x to the Secretary.

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Administrative Judge Richard F. Cole
Administrative Judge Charles N. Kelber.
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