

**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 Plant,
Units 3 and 4)**

Docket Nos. 50-250/251-OLA

ALSBP No. 08-869-03-OLA-BD01

Date: 16-SEP-2008

**PETITIONER'S RESPONSE TO ANSWERS BY THE
NUCLEAR REGULATORY COMMISSION STAFF AND BY THE
FLORIDA POWER AND LIGHT COMPANY**

INTRODUCTION

On 11-SEP-2008, the U.S. Nuclear Regulatory Commission NRC ("Staff") filed NRC Staff's Answer to Saporito Energy Consultants' Petition to Intervene and Request for Hearing ("Petition") in the above-styled matter. Consequently, on 11-SEP-2008, the Florida Power and Light Company ("FPL") filed FPL's Answer to Request for Hearing and Petition for Leave to Intervene of Saporito Energy Consultants in the above-styled matter. Both the NRC Staff and FPL argue that the Petition filed by Saporito Energy Consultants ("SEC") and its President, Thomas Saporito ("Saporito")(herein after "Petitioners"), should be denied for failure of Petitioners to demonstrate standing and to submit an admissible contention.

DISCUSSION

1. Legal Standards

a. Legal Standards Governing Standing

In their Answer, the Staff argues in relevant part that,

" . . . In support of SEC's standing, the Petition merely lists Thomas Saporito, the president of SEC, with a street address and a P.O. Box in Jupiter, Florida. . . Petitioners claim that Mr. Saporito, as a U.S. citizen, has 'an inherent right under the [AEA] to be made a party to the proceeding, 'and therefore, based on Mr. Saporito's citizenship and his status as president of SEC, SEC has a right to be made a party as well. . . Petitioners also state that Mr. Saporito and SEC have 'real property and personal property and financial interests which can be adversely affected' if operations at Turkey Point 'cause a release of radioactive particles into the environment.' . . . Specifically, Petitioners claim that such a release 'could render [Petitioners'] home and property unavailable for human contact or use for many years or forever,' and 'could forever compromise the environment where the petitioners reside, live and do business.'

Id. at 7. The Staff continues that,

" . . . Neither Mr. Saporito, as an individual, nor SEC, as an organization, has made the required showing to support standing. First, . . . there is no 'inherent right' under the AEA, based on U.S. citizenship or otherwise, to participate as a party in a proceeding. . . Second, Petitioners' vague assertions of possible harm do not amount to a showing of 'concrete and particularized' injury to Mr. Saporito's interests or SEC's interests that is 'actual or imminent, not conjectural or hypothetical.' . . . Petitioners vaguely assert only that harm could result from 'operations at ...Turkey Point' and fail to demonstrate that such injury would result *from the challenged license amendment*. Specifically, Petitioners fail to indicate how the challenged license amendment, which merely removes notes that are

no longer applicable from the Technical Specifications, would increase the risk of an offsite release of radioactive material. Because Petitioners have stated merely a 'general objection to the facility,' they have not demonstrated injury-in-fact in this license amendment proceeding. . . Finally, Petitioners cannot rely on the proximity presumption to support their standing. Both Mr. Saporito and SEC have listed addresses in Jupiter, Florida, over 100 miles from Turkey Point and far beyond the 50-mile radius that would grant them proximity standing in construction permit or operating license proceeding. . . Petitioners have made no showing of an 'obvious potential for offsite consequences' from the requested action that would justify recognizing any proximity presumption. . . Nor have Petitioners shown 'a plausible chain of events that would result in offsite radiological consequences posing a distinct new harm or threat' from this purely administrative license amendment. . Petitioners have provided only conclusory allegations about possible property, environmental and economic harm from Turkey Point."

Id. at 7-9. FPL's Answer in this proceeding parrot that of the Staff's Answer and therefore need not be redressed herein since FPL' arguments duplicate those of the Staff in likeness and in all respects.

b. Petitioners Have Standing as a Matter of Right

Petitioners aver here that they have standing in the above-styled proceeding as a matter of right. SEC's President, Thomas Saporito, is the owner and operator of SEC which operates its business across the continental United States of America ("USA"). See, <http://saporitoenergyconsultants.com>. See, also, Affidavit of Thomas Saporito.

Thus, it is of no consequence that SEC ("company") and Saporito have a mailing address and/or a physical address shown in Jupiter, Florida since the company's business involves the geographical area well within the NRC's 50-mile zone of interest¹ described by the Staff. Moreover, it is of no consequence whether or not the Turkey Point nuclear plants ("TPN") are in a state of construction or are fully operational (as they currently exist) because SEC business operations encompass the geographical area well within the NRC's 50-mile zone of interest. As SEC's President, Saporito requires physical access to SEC's potential customer base located within 50-miles or closer to TPN, both Saporito and SEC have requisite standing in the instant matter. Notably, part of SEC's business plan is to have its President travel to the greater Miami, Florida area to ascertain a client base and to ascertain partnerships with existing businesses. See, Saporito affidavit. The greater Miami, Florida area is well within the NRC's 50-mile radius and zone of interest. Thus, it is clear that SEC has standing through its president and Saporito has standing due to his need to conduct SEC business in the greater Miami, Florida area. See, *Consumers*

¹ See, *Tenn. Valley Auth.* (Sequoyah Nuclear Plant, Units 1&2; Watts Bar Nuclear Plant, Unit 1), LBP-02-14, 56 NRC 15, 23 (2002).

Energy Co. (Big Rock Point ISFSI), CLI-07-19, 65 NRC 423, 426 (2007), *citing Florida Power & Light Co.* (St. Lucie Nuclear Power Plant, Units 1 & 2), CLI-89-21, 30 NRC 325, 329 (1989).

c. Petitioners' Are Subject to Injury-In-Fact Resulting From the LAR and Therefore Have Standing

To the extent that Petitioners' business activities involve physical access to areas within the NRC's 50-mile zone of interest of TPN, Petitioners assert that they are subject to injury-in-fact as a direct or indirect result of License Amendment Request ("LAR") where changes to the TPN technical specifications removing certain notes have reduced the degree of the margin of safety in operation of TPN Units 3 & 4. Specifically, Petitioners assert here that removing the notes associated with the technical specifications for TPN Units 3 & 4, has resulted in operations of those nuclear power plants with less of a degree of a margin of safety and therefore could result in an accident releasing radioactive particles into the environment in and around the greater Miami, Florida area where Petitioners conduct business. See, Saporito affidavit. Petitioners further assert that such an accident could render the affected area described above

uninhabitable to humans and thereby adversely affect the business of SEC.

2. Petitioners' Contentions

In their Answer, the Staff contends that, Petitioner's three contentions are inadmissible because they challenge the Staff's no significant hazards consideration ("NSHC") determination. *Id.* at 9. In addition, the Staff alleges that Petitioners' contentions are also inadmissible because they fail to satisfy, or even address, the Commission's contention pleading requirements as set forth in 10 C.F.R. §2.309(f)(1).

a. Petitioners' Amended Contentions

In accordance with the Commission's Rules of Practice for Domestic Licensing Proceedings at 10 C.F.R. 2.309, Petitioners hereby collectively amend their 3-contentions previously submitted in the instant matter.

Overview of Control Rod Drive Mechanisms

In a pressurized water reactor such as those employed at TPN Units 3 & 4, heat is generated by fission of a nuclear fuel (enriched uranium) and transferred into a coolant flowing through the reactor core. The core has elongated nuclear fuel rods secured in proximity to each other on a fuel assembly structure through and over which

the coolant flows. The spacing of the fuel rods from each other is coextensive parallel arrays. Some of the neutrons and other atomic particles released during nuclear decay of fuel atoms in a given fuel rod pass through the spaces between the fuel rods and impinge on the fissile material in an adjacent fuel rod and thereby contribute to the nuclear reaction supplementing the heat generated by the core.

There exists movable control rods dispersed throughout the nuclear core to enable control of the overall fission rate by absorbing a portion of the neutrons passing between fuel rods, lessening the fission reaction. The control rods comprise elongated rods of neutron absorbing material and fit into longitudinal openings (guide thimbles) in the fuel assemblies mounted parallel to and between the fuel rods. The insertion of a control rod further into the core causes more neutrons to be absorbed without enhancing fission in an adjacent fuel rod. Retracting the control rod lessens the degree of neutron absorption and increases the rate of the nuclear reaction and resulting output power of the core. The control rods are mounted in cluster assemblies that are movable to advance or retract a group of control rods relative to the core. It is for this purpose that

control rod drive mechanisms ("CRDMs") are employed as part of an upper internals arrangement located within the nuclear reactor vessel and above the nuclear core. The TPN reactor vessels are pressurized to a high internal pressure, and the CRDMs are housed in pressure housings which are tubular extensions of the reactor vessel.

The control rod drive mechanism has three electromagnetic coils and armatures or plungers that operate in a coordinated manner to raise and lower a drive rod shaft and a control rod cluster assembly coupled to the shaft. The three coils are mounted around and outside the pressure housing. Two of the three coils operate grippers that when powered by the coils engage with the drive rod shaft where one of the grippers is axially stationary and the other is axially movable. The drive rod shaft has axially spaced circumferential grooves that are clasped by grip latches on the grippers which are spaced circumferentially around the drive rod shaft. The third coil actuates a lift plunger coupled between the movable gripper and a fixed point. If control power to the CRDM is lost, the two grippers both release and the control rods drop by gravity into their maximum nuclear flux damping position. As long as control power remains valid, at least one of the stationary gripper

and the movable gripper holds the drive rod shaft at all times.

3. Amended Contention(s)

Petitioners contend here that the proposed amendments for TPN Units 3 & 4 reduce the degree of the margin of safety that would otherwise remain absent the amendments. Specifically, technical specifications ("TS") for TPN Unit-3 were changed as a direct result of the LAR by removal a note that stated, "During Unit 3 Cycle 22, the position of Rod M-6, Control Bank C, may be monitored by verifying gripper coil parameters of the Control Rod Drive Mechanism to determine it has not changed state." *Id.* L-2007-131 Attachment 1 at 4.

Likewise, TS changes for TPN Unit-4 were changed as a direct result of the LAR by removal a note that stated, "During Unit 4 Cycle 21, the position of Rod F-8 Shutdown Bank B will be determined every 8 hours by verifying gripper coil parameters of the Control Rod Drive Mechanism to determine it has not changed state . . . the position of Rod F-8, Shutdown Bank B, may be monitored be verifying gripper coil parameters of the Control Rod Drive Mechanism ("CRDM") to determine it has not changed state and it will

not provide an input into the Rod Position Deviation Monitor." *Id.* L-2007-131 Attachment 1 at 2.

Petitioners contend here that the notes for the TPN TS described immediately above for TPN Units 3 & 4 are more conservative than the language relied upon in the TPN TS without the notes and thereby provide a higher degree of a margin of safety in requiring plant operators to physically monitor and verify the associated gripper coil parameters of the CRDM to determine that they have not changed state and that they will not provide an input into the Rod Position Deviation Monitor. Petitioners contend here that removal of the associated notes in the TPN TS allows operation of TPN Units 3 & 4 with respect to monitoring undesired movement of Rod M-6 in Control Bank C for TPN Unit-3 for TS LCO 3.1.3.1, and monitoring undesired movement of Rod F-8 Shutdown Bank B for TPN Unit-4 for TS Surveillance Requirement 4.1.3.1.1, through an automated system and lessens the degree of the margin of safety in operation of TPN Units 3 & 4 which could result in an accident releasing radioactive particles into the environment in the greater Miami, Florida area, or depending on the prevailing wind currents, release

radioactive particles into the environment encompassing the entire State of Florida. See, Affidavit of Thomas Saporito.

Notably, it was the inoperability of Unit-3 Control Rod M-6 and Unit-4 Control Rod F-8 Shutdown Bank B, which caused the licensee FPL to request an LAR in the first place. The fact that the licensee's LAR required human surveillance of the Unit-3 Control Rod M-6 and the Unit-4 Control Rod F-8 is proof positive that human surveillance is a reliable method to ensure that the affected control rods have not changed state or caused an input to the Rod Position Deviation Monitor. Petitioners contend that the licensee's automated system failed and could not ensure that the affected control rods had not changed state or would cause an input to the Rod Position Deviation Monitor, resulted in an LAR, and the licensee has failed to show that the automated system is more reliable or has a higher degree of a margin of safety than that of human operators monitoring the same.

The licensee FPL in a letter apparently authored by William Jefferson, Jr. ("Jefferson letter") to the NRC Document Control Desk regarding TPN Units 3 & 4, LAR-193, administrative changes to TS to remove notes regarding the inoperability of rod position indication for control rods

F-8 (Unit 4) and M-6 (Unit 3), dated September 5, 2007, does not appear to discuss what, if any, root cause analysis was conducted on TPN Units 3 & 4 to determine the root cause for the failure of control rods F-8 (Unit 4) and M-6 (Unit 3). Petitioners contend that, the licensee FPL has not demonstrated in the Jefferson letter any fault-tree analysis illustrating that the CRDM system will timely alert the respective plant operators about inoperable control rods which might not fall into the reactor's core as designed upon challenge to do so. Petitioners contend that, the notes which are the subject of this proceeding provide assurance through human intervention about the position of the respective control rods identified above and therefore a higher degree of a margin of safety than would otherwise exist without the notes. See, Affidavit of Thomas Saporito.

Petitioners contend that the licensee has failed to demonstrate that the automated system relied upon in the TPN TS to monitor the affected Rods identified above (absent the notes), will not again fail in the future and lead to an accident releasing radioactive particles into the environment in the greater Miami, Florida area or, depending upon prevailing wind currents, releasing

radioactive particles encompassing the entire State of Florida. See, Affidavit of Thomas Saporito.

CONCLUSION

For all the foregoing reasons, the Petition filed by SEC through its President, Thomas Saporito, should be found by this Atomic Safety and Licensing Board Panel ("ASLBP") to be in full compliance with the standing requirements at 10 C.F.R. §2.309(d) and the contention admissibility requirements at 10 C.F.R. §2.309(f)(1). Therefore, the request for hearing and leave to intervene should be GRANTED.

Respectfully submitted,



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CERTIFICATE OF SERVICE

I hereby certify that a copy of **PETITIONER'S RESPONSE TO ANSWERS BY THE NUCLEAR REGULATORY COMMISSION STAFF AND BY THE FLORIDA POWER AND LIGHT COMPANY** in the above-styled matter was served on the following relying on the United States Government's Electronic Information Exchange this 16th day of September, 2008:



By: _____

Thomas Saporito

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AFFIDAVIT OF THOMAS SAPORITO

State of Florida
County of Palm Beach

BEFORE ME, the undersigned Notary, _____,

on this _____ day of _____,

personally appeared **Thomas Saporito**, known to me to be a credible person and of lawful age, who being by me first duly sworn, on his oath, deposes and says:

1. I am Thomas Saporito the President of Saporito Energy Consultants (SEC) identified in the matter of ALSBP No. 08-869-03-OLA-BD01, Florida Power and Light Company, Turkey Point Units 3 & 4.
2. As the President of SEC, I require physical access to SEC's potential customer base located within 50-miles or closer to TPN.
3. Part of SEC's business plan is to have its President travel to the greater Miami, Florida area to ascertain a client base and to ascertain partnerships with existing businesses.
4. Removing the LAR identified notes associated with the technical specifications for TPN Units 3 & 4, has resulted in operations of those nuclear power plants with less of a degree of a margin of safety and could result in an accident releasing radioactive particles into the environment in and around the greater Miami, Florida area.
5. Removal of the LAR associated notes in the TPN TS allows operation of TPN Units 3 & 4 with respect to monitoring undesired movement of Rod M-6 in Control Bank C for TPN Unit-3 for TS LCO 3.1.3.1, and monitoring undesired movement of Rod F-8 Shutdown Bank B for TPN Unit-4 for TS Surveillance Requirement 4.1.3.1.1, through an automated system and lessens the degree of the margin of safety in operation of TPN Units 3 & 4 which could result in an accident releasing radioactive particles into the environment in the greater Miami, Florida area, or depending on

the prevailing wind currents, release radioactive particles into the environment encompassing the entire State of Florida.

6. The licensee FPL has not demonstrated in the Jefferson letter any fault-tree analysis illustrating that the CRDM system will timely alert the respective plant operators about inoperable control rods which might not fall into the reactor's core as designed upon challenge to do so. The notes which are the subject of this proceeding provide assurance through human intervention about the position of the respective control rods identified above and therefore a higher degree of a margin of safety than would otherwise exist without the notes.

7. The licensee has failed to demonstrate that the automated system relied upon in the TPN TS to monitor the affected Rods identified above (absent the notes), will not again fail in the future and lead to an accident releasing radioactive particles into the environment in the greater Miami, Florida area or, depending upon prevailing wind currents, releasing radioactive particles encompassing the entire State of Florida.

Thomas Saporito
1030 Military Tr. #25
Jupiter, Florida 33458

State of Florida
County of Palm Beach

Sworn to (or affirmed) and subscribed before me this _____
day of _____, _____, by Thomas Saporito.

Notary Public - State of Florida

AFFIDAVIT OF THOMAS SAPORITO

State of Florida
County of Palm Beach

BEFORE ME, the undersigned Notary, Thomas Saporito,
on this 16th day of SEPTEMBER, 2008,

personally appeared **Thomas Saporito**, known to me to be a credible person and of lawful age, who being by me first duly sworn, on his oath, deposes and says:

1. I am Thomas Saporito the President of Saporito Energy Consultants (SEC) identified in the matter of ALSBP No. 08-869-03-OLA-BD01, Florida Power and Light Company, Turkey Point Units 3 & 4.
2. As the President of SEC, I require physical access to SEC's potential customer base located within 50-miles or closer to TPN.
3. Part of SEC's business plan is to have its President travel to the greater Miami, Florida area to ascertain a client base and to ascertain partnerships with existing businesses.
4. Removing the LAR identified notes associated with the technical specifications for TPN Units 3 & 4, has resulted in operations of those nuclear power plants with less of a degree of a margin of safety and could result in an accident releasing radioactive particles into the environment in and around the greater Miami, Florida area.
5. Removal of the LAR associated notes in the TPN TS allows operation of TPN Units 3 & 4 with respect to monitoring undesired movement of Rod M-6 in Control Bank C for TPN Unit-3 for TS LCO 3.1.3.1, and monitoring undesired movement of Rod F-8 Shutdown Bank B for TPN Unit-4 for TS Surveillance Requirement 4.1.3.1.1, through an automated system and lessens the degree of the margin of safety in operation of TPN Units 3 & 4 which could result in an accident releasing radioactive particles into the environment in the greater Miami, Florida area, or depending on

the prevailing wind currents, release radioactive particles into the environment encompassing the entire State of Florida.

6. The licensee FPL has not demonstrated in the Jefferson letter any fault-tree analysis illustrating that the CRDM system will timely alert the respective plant operators about inoperable control rods which might not fall into the reactor's core as designed upon challenge to do so. The notes which are the subject of this proceeding provide assurance through human intervention about the position of the respective control rods identified above and therefore a higher degree of a margin of safety than would otherwise exist without the notes.
7. The licensee has failed to demonstrate that the automated system relied upon in the TPN TS to monitor the affected Rods identified above (absent the notes), will not again fail in the future and lead to an accident releasing radioactive particles into the environment in the greater Miami, Florida area or, depending upon prevailing wind currents, releasing radioactive particles encompassing the entire State of Florida.


Thomas Saporito
1030 Military Tr. #25
Jupiter, Florida 33458

State of Florida
County of Palm Beach

Sworn to (or affirmed) and subscribed before me this 16
day of September, 2008, by Thomas Saporito.


Notary Public - State of Florida

