

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE COMMISSION

In the Matter of)	
)	
FLORIDA POWER & LIGHT CO.)	Docket No. 50-250-LA
)	and 50-251-LA
(Turkey Point Nuclear Generating)	
Units 3 and 4))	

CITIZENS ALLIED FOR SAFE ENERGY NOTICE OF
FILING A BRIEF IN OPPOSITION TO FPL AND NRC
STAFF APPEALS OF LBP-15-13

Pursuant to 10 C.F.R. § 2.311(a), (b), and (d), Citizens Allied for Safe Energy, Inc., (CASE) files this notice of a brief in opposition to FPL and NRC staff appeals filed on April 17, 2015 of the Atomic Safety and Licensing Board’s Memorandum and Order, dated March 23, 2015, which granted CASE standing and admitted one contention for litigation in the above-captioned proceeding. Attached is a brief supporting this opposition.

Executed in Accord with 10 CFR § 2.304(d).

Respectfully submitted,

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Dated at Miami, Florida
this 12th day of May, 2015

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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FLORIDA POWER & LIGHT CO.)	Docket No. 50-250-LA
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MAY 12, 2015

CITIZENS ALLIED FOR SAFE ENERGY BRIEF IN SUPPORT OF
OPPOSITION TO FPL AND NRC STAFF APPEALS OF LBP-15-13

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INTRODUCTION

Pursuant to 10 C.F.R. § 2.311, Citizens Allied for Safe Energy, Inc. (CASE) hereby files its brief in opposition to FPL and the NRC appeals of the Atomic Safety Licensing Board (Board) Order LBP-15-13 (Order) before the Commission filed on April 17, 2015. CASE will reply jointly to the appeals since they address essentially the same issues and hold similar positions.

CONSULTATION

On April 22, 2015 CASE sent a Memo of Consultation to FPL and the NRC staff by electronic mail indicating the intent to file a brief in opposition to their appeals of LBP-15-13. As of this writing no response has been received to that Memo.

ELECTRONIC FILING

The Board previously granted CASE an exemption to 10 C.F.R. § 2.302(g), allowing it to file and receive service via email. Licensing Board Order (Granting CASE's Motion to Receive Service by Email) at 2 (Oct. 28, 2014) (unpublished). This was necessary for technical reasons beyond CASE's control..

CERTIFICATE OF SERVICE

All parties to the subject matter have been copied by electronic mail as indicated in the attached COS.

BACKGROUND

On October 14, 2014 CASE, a Florida Non-profit Corporation filing pro se, filed a Petition to Intervene and Request for a Hearing in response to a notice published by the Nuclear Regulatory Commission (“NRC” or “Commission”) at 75 F.R. at 47689 on August 14, 2014. The petition was filed on behalf of CASE members regarding the NRC issued amendments to Renewed Facility Operating License Nos. DPR-31 and DPR-41, issued to Florida Power & Light Company, for operation of the Turkey Point Nuclear Generating Units 3 and 4. A hearing was granted by an ASLB and oral agreements were made on January 14, 2015 in Homestead, Florida. On March 23, 2015 the ASLB issued a Memorandum and Order (Granting CASE’s Petition to Intervene), granting CASE standing and admitting one contention as revised by the ASLB. FPL and the NRC staff are appealing that Memorandum and Order. On March 17, 2015 the NRC Staff filed a BRIEF IN SUPPORT OF FLORIDA POWER & LIGHT COMPANY’S APPEAL OF LBP-15-13. On the same day the NRC Staff filed NRC STAFF’S NOTICE OF APPEAL OF LBP-15-13.

A GENERAL STATEMENT

CASE, as a pro se intervenor, would not presume to comment on points of law regarding internal NRC matters raised by the NRC staff and/or FPL in their appeals,. CASE will, however, comment on points of fact and on challenges to CASE’s standing and Contention 1 as restated by the Board. At base, CASE supports the Board’s decisions that its members merit standing, that its contention is admissible and that these serious matters should be fully examined and discussed in an evidentiary hearing.

STANDING

FPL, in its referenced appeal, devotes its entire discussion of CASE's standing in this matter, from page 8 to page 19 to technical matters relating to freshwater never fully addressing the criteria for standing which FPL cites, at 5:

- (1) an injury in fact that is "concrete and particularized" as well as "actual or imminent, not conjectural or hypothetical";*
- (2) that can fairly be traced to the challenged action and not the result of "the independent action of some third party not before the court"; and*
- (3) that is "likely, as opposed to merely speculative" to be redressed by a favorable decision.*

CASE, in its petition of October 14, 2015, at 2-4, , in its reply of November 17, 2014 at 9-14, and in its oral arguments on January 14, 2014, transcript at many points, extensively enumerated examples of circumstances meeting all of the cited criteria for standing. While FPL's appeal chooses to focus on matters that actually relate to the specificity of Contention 1 below, FPL and NRC Staff ignore the myriad of actual and potential damages to one of the rarest and most endangered ecosystems in the world and the tragic damages done by the operation of Turkey Point 3 & 4 and FPL's action to mitigate them. CASE members are concerned about the impact of a reduction of freshwater and an increase in salinity at Turkey Point on marine life (the spawning ground for the entire area, Biscayne National Park and Biscayne Aquatic Preserve, are next door), over 65,000 acres in agriculture, the source of most winter vegetables for the nation, (\$2.6 billion/yr), the Florida Keys fishing and tourist industry (\$7.6 billion/yr), the drinking water for the entire Florida Keys (\$100 million/yr if they have to go to desalinization) the rock mining industry to the west (salt water is 1/2 mile away now; you cannot use the rock if it has salt water in it) and the water the residents to the west of the CCS use for drinking and irrigation. None of these matters are mentioned in FPL's filings in 4

these proceedings yet they are exactly the injuries directly traceable to the operation of the Turkey Point Units 3 & 4 and its Cooling Canal System (CCS) and are concrete and extant, and the only conjecture is the course they will follow over time, not hard to predict. The Board recognized these factors in granting CASE members standing noting the abundance of information CASE provided showing that the land and ecology CASE members treasure have been and will continue to be harmed unless some changes are made.

What frightens and concerns CASE members is that what started out as *findings of no significant impact* in the EA turned out to be very significant requiring *emergency* measures to attempt to correct, but which as of this writing have not only not been corrected, are increasing in nature. We read in the above referenced NRC Federal Register posting on August 14, 2014

In its letters dated July 10, and July 17, 2014, the licensee stated that the UHS temperature has approached the current TS limit of 100 °F. The licensee stated that the UHS temperature has been trending higher than historical averages in part because of reduced water levels caused by unseasonably dry weather and because of reduced cooling efficiency caused by an algae bloom of concentrations higher than previously observed. The licensee requested a timely review of its application to avoid a dual unit shutdown that could affect grid reliability.

So, CASE contends, that its standing in the matter derives not only from proximity to but, as the Board concluded, from the failure of the CCS which responsible authorities said would not happen and which FPL attributed to nature alone, the information in Chart 1 notwithstanding. Correlation is not causation; causes must be sought. In addition to

increased salinity and salt water intrusion, which Contention 1 will address, there are threats to wild life and the ecology beyond and outside of anything predicted in the related EA. This is unacceptable. The NRC, ultimately, CASE contends, has the authority and the responsibility to redress the actual and potential injuries in this matter; delegation of these functions is not working, at least in this State. An evidentiary hearing will review the factors leading to this situation and, hopefully, to corrective measures at the source.

CONTENTION ONE

In restating CASE's Contention 1, the Board went to the heart of CASE's members' concerns (Order at 24):

The NRC's environmental assessment, in support of its finding of no significant impact related to the 2014 Turkey Point Units 3 and 4 license amendments, does not adequately address the impact of increased temperature and salinity in the CCS on saltwater intrusion arising from (1) migration out of the CCS; and (2) the withdrawal of fresh water from surrounding aquifers to mitigate conditions within the CCS.

CASE's fundamental premise in this filing is that consequences arise from judgements and decisions especially regarding the physical realm. In building and operating a nuclear reactor one is challenging physics and the interaction of dangerous and harsh interface with nature. So, when a conclusion of "no significant impact", as the Board notes, is made, this is a strong statement which must be supported by irrefutable evidence, testing and experimentation. An engineer uses a standard of triple the maximum load to which his project will be subjected in an abundance of caution 6

so that when he signs off on the project, he knows it will endure whatever load it is subjected to. This is what we expect in mechanical matters; it should be no different with judging the impact of the operation of a nuclear reactor on its surroundings. So when, on July 10, 2014 when FPL declares an emergency and requests extraordinary amounts of freshwater and the use of harsh chemicals to control the salinity, temperatures and algae bloom in the Cooling Canal System at Turkey Point *when the NRC and FPL predicted that this would not happen*, we must ask: on what was that judgement based? FPL Appeal, at 20, states:

Because CASE's contention focused on the EPU, it did not provide any of the requisite information necessary to support a different contention challenging this license amendment or the evaluation in the NRC's EA. It was supported by no facts regarding the quality of water FPL withdraws from local sources (only unsupported assertions) and no expert opinion regarding the impact of those withdrawals or regarding the impact of slightly elevated temperature in the CCS. ... CASE failed to show that *further evaluation* of saltwater intrusion or aquifer withdrawals in the EA would be material, that is, have the potential to change the outcome of the NRC's EA to a conclusion that the environmental impact of the license amendment is significant.

CASE did not focus on the EPU. Rather, CASE focused on the consequences of the EPU as reflected in an analysis of FPL's own data, as shown in the three visuals presented here. And it did not take expert opinion to observe the events which precipitated an emergency request by FPL for authority to take emergency measures to relieve the situation in the CCS. The Board and CASE contend that, indeed, *further analysis* might have changed the outcome and consequences of the EPU. 7

And it is not only the judgement call in July, 2014 regarding emergency procedures which must be examined; the decisions made based on the related EA which allowed the 2012/2013 uprate must also be re-visited because they are implicated in what we witnessed in July, 2014. As we have seen, and as the Board contends, the uprate does not seem to have been exhaustively vetted, witness emergency events which the analysts said would not happen or be of no significant impact.

SALINITY

The Board Order, at 6, states:

The Board disagrees with FPL's claim that "CASE never originally argued that FPL planned to withdraw water from a **fresh** portion of the Biscayne aquifer. Throughout its petition, CASE refers explicitly to its concerns about the impact that FPL's actions will have on **fresh water**, including the withdrawal of **fresh water** from Florida's aquifers. As such, the Board views CASE's arguments made in reply related to the use of fresh water to be a legitimate amplification of its original petition. (emphasis added)

CASE opposes the NRC Staff and FPL Appeals based on errors of material fact and mischaracterization of the saline nature of the Biscayne Aquifer which are at variance with the Boards' just cited statement:

NRC Staff Appeal, at 10:

With respect to the aquifer withdrawals, the EA stated:
The CCS is situated above two Aquifers: the shallower **saltwater** Biscayne Aquifer and the deeper brackish Floridan Aquifer. (emphasis added)

FPL Appeal, at 9:

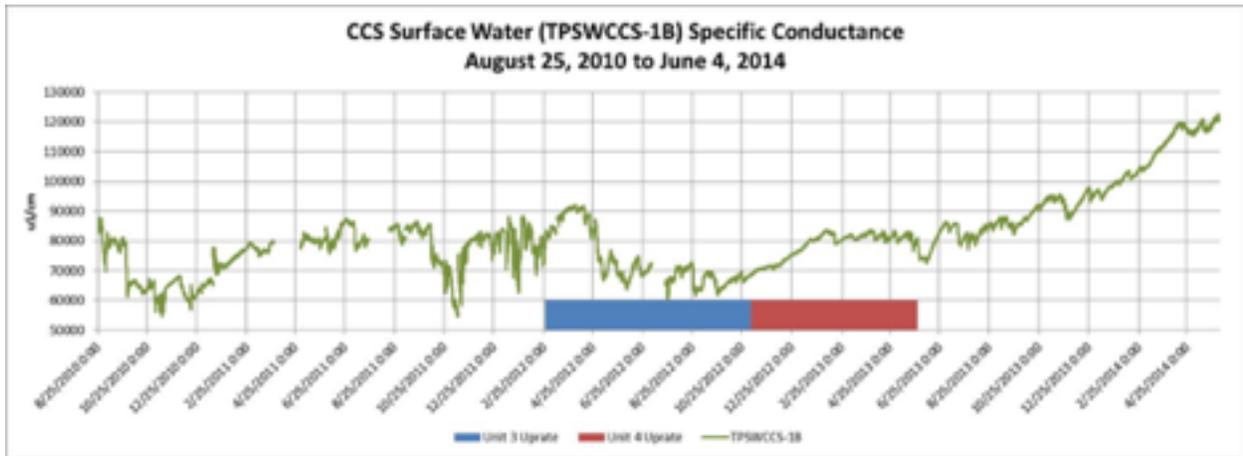
the Biscayne aquifer water FPL has withdrawn **is clearly not freshwater** (see NRC Staff Answer Attachment B). And CASE admitted during the preheating conference that the groundwater in the much deeper Floridian aquifer is brackish (Tr. at 33) and separated from the Biscayne aquifer by a confining formation (Tr. at 44, 66, 68), and that CASE does not know whether it is critical to holding back saltwater (Tr. at 66)

This variance in material fact points up exactly the need for an evidentiary hearing as granted by the Board. CASE will show that, **by Miami-Dade County and State of Florida Standards, the water in the L31E Canal, the eastern boundary of Everglades National Park, is freshwater** and, in fact, except for the exact site of Turkey Point 3 & 4, the entire Biscayne Aquifer all the way to Georgia and the entire Everglades are freshwater by these standards. As CASE stated (TR at 32) the salinity of the water in the L31E is 400 psu (Practical Salinity Unites, misstated as microsiemens by CASE in the hearing); Miami-Dade County considers salinity under 500 psu as fresh water; the State of Florida uses 1225 psu; seawater is 35,000 psu. What was freshwater at Turkey Point for miles into Biscayne Bay before 1960, is now hypersaline, actually three times the salinity of sea water. Salinity in the CCS has been as high as 97,000 psu. This hypersaline system has been, is and will continue to be a threat to all life in the area.

The chart below (from Exhibit 1 in CASE's Petition of October 14, 2014) shows the increase in salinity in the CCS from April 2010 to April 2014 in relation to the uprates of Units 3 (Blue) & 4 (Red). The readings of Specific Conductance, a measure of salinity, went from an average of

about 75,000 units to over 120,000 units. We read from the above referenced NRC Federal Register posting on August 17, 2014

In its letters dated July 10, and July 17, 2014, the licensee stated that the UHS temperature has approached the current TS limit of 100 °F. The licensee stated that the UHS temperature has been trending higher than historical averages in part because of reduced water levels *caused by unseasonably dry weather and because of reduced cooling efficiency caused by an algae bloom of concentrations higher than previously observed.* The licensee requested a timely review of its application to avoid a dual unit shutdown *that could affect grid reliability.* (emphasis added).



If FPL could shut down each reactor for seven months at a time for the uprate with no apparent impact on grid reliability, how would shutting down or reducing the operation of one or both reactors during their exigent situation not be considered as a possibility while the root cause of excess salinity, algae bloom and high temperatures in the CCS was investigated? Was using precious freshwater and dumping toxic chemicals into the 10

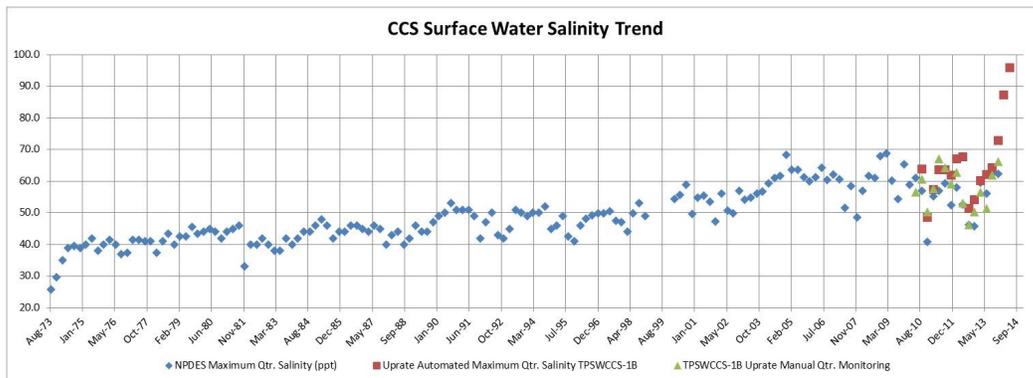
canals the only and best option? And, looking to only to ambient temperature and alleged dry weather as the root causes of the exigent situation in the CCS defies logic and the principles of responsible scientific inquiry.

BOARD'S FUTURE WATER WITHDRAWALS ASSERTION CORRECT

The Board Order, at 21/22 states:

...the EA does not discuss FPL's temporary authorization to withdraw up to 100 million gallons per day from the L31 canal. CASE's petition

Compilation of Available CCS Surface Water Salinity Data



expresses concern that this authorization would not be temporary, but could “set a precedent for future **freshwater** requests.” In fact, on February 18, 2015, FPL requested permanent authorization from the South Florida Water Management District (The District) to draw 100 million gallons per day from the L31 canal in order to resolve temperature and salinity problems in CCS.

NRC Staff appeal, at 1 :

The Staff submits that the Board erred when it... (2) determined that the license amendment request (LAR), would result in the need for **additional aquifer withdrawals...**

FPL Appeal at 9/10:

Despite CASE’s complete failure to relate any aquifer withdrawals to the increase in the TS limit, the Board modified CASE’s argument to conclude that the NRC’s approval of the amendment:

enables Turkey Point Units 3 and 4 to continue operating at the same power level and with elevated CCS temperatures, which could effectively require **additional aquifer withdrawals...** is not only speculative and unsupported but also incorrect.

On April 9, 2015 this enabling order was issued by The District:

BEFORE THE GOVERNING BOARD OF THE SOUTH FLORIDA WATER
MANAGEMENT DISTRICT SFWMD No. 201 5-020-DA6-VA/U ; 'Mci

AUTHORIZATION OF SHORT-TERM WATER WITHDRAWALS BY FLORIDA
POWER AND LIGHT FROM THE L-31E CANAL SYSTEM IN MIAMI-DADE
COUNTY, FLORIDA FINAL ORDER

The District Order authorized what could yield up to 100 MGD from the *freshwater* L31E Canal in the rainy season for two years beginning June 1, 2015, as FPL requested, to mitigate salinity and algae bloom in the CCS.

Freshwater. Only 3% of the water on Earth is freshwater and of that, only about 1% is accessible. Federal and State authorities are spending hundreds of millions of dollars to restore and maintain the flow of freshwater from Georgia to the Florida Keys in the Everglades and in the Biscayne Aquifer. So when we see a Cooling Canal System which evaporates 44 MGD of freshwater in times of mild temperatures and much more than that in the summer, and a scheme to withdraw 100 MDG of freshwater from the Biscayne Aquifer L31E canal, we must ask at what cost are we producing this energy. Why bother restoring the flow of freshwater to the area?. It is freshwater which checks to intrusion of saltwater inland; are we condemning south Miami-Dade county and the Florida Keys to a saltwater ecology by its draining freshwater and befouling it?

Hatchling and juvenile marine life need freshwater to develop; maturing marine life needs some fresh water or its defenses are diminished. Copper sulfate, used to control the algae bloom in the CCS, disrupts the breeding cycle for the female crocodile and is a neurotoxin harmful to all fauna. The algae bloom in the the canals create deadly cyanobacteria.

SALT WATER INTRUSION

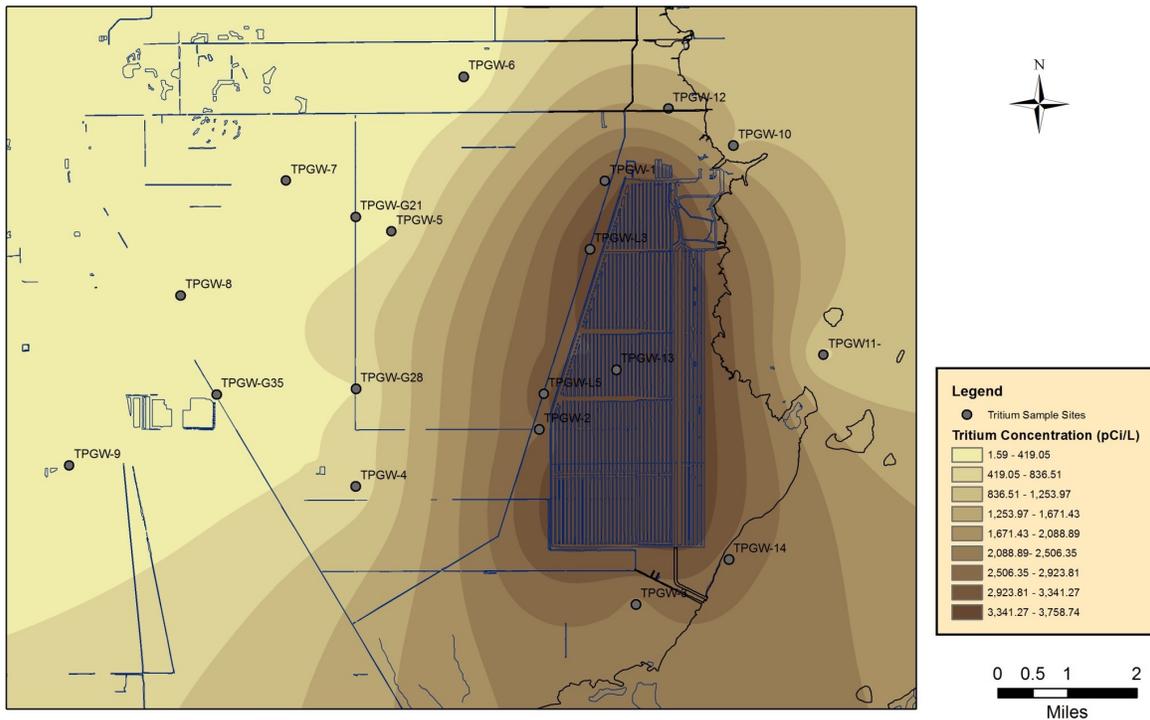
The CCS consists of 168 miles of unlined trenches covering 6100 acres of former pristine Everglades wetland. As the figure on page 14 shows, water migrates freely from the canals carrying whatever is in them. We also see the water flowing into the adjacent marine sanctuary. 13

The contribution of the CCS operation to increase salinity, saltwater intrusion and diminished water quality in the area cannot be denied.

Modest saltwater intrusion has been recorded at Turkey Point since the beginning of the 20th century. but it was not until the construction of Turkey Point 3 & 4 that salinity increased apace and the intrusion became aggressive. As the graph above and the visual below show, salinity was very low in 1973 increasing by 3.6 times by 2014, with most of the increase since the EPU, and the plume of saline water has expanded in all directions. (Petition Exhibit 1). The salt water plume comes away from the CCS at about a 40 degree angle.



Contours Based On Deep Well Tritium Results From the March 2013 Quarterly Sampling



What was once fresh water several miles into Biscayne Bay is now saltwater for four miles inland from the Turkey Point Cooling Canals and has continued to move inland from the shore since the system was constructed in 1972. It takes one foot of fresh water above sea level to hold back 44 vertical feet of sea water. The salt water plume comes away from the CCS at about a 40 degree angle. So, as freshwater becomes saline due to the migration of hypersaline water from the CCS or due to excessive removal of freshwater or diminished freshwater coming from the north due to excessive drainage, the ability of nature to hold back the intrusion is reduced. The threats enumerated above can occur.

CONCLUSION,

As CASE has described above, selecting only a few of the many issues which could have been addressed in the statements of opposition, CASE's members clearly have standing due to the actual and potential harm from the operation of Turkey Point Units 3 & 4 and its Cooling Canal System to the ecology and the economy in the area. Salinity and saltwater intrusion are choking the life out of once pristine freshwater wetlands which are now three times the salinity of seawater with salt water now intruding four miles inland from the canals and advancing. In ancient times, retreating armies would salt the Earth so nothing would grow there; now we have done so just to produce electricity.

Sufficient variances have been shown in matters of material fact between FPL and the NRC Staff on the one hand, and the Board and CASE on the other to merit an evidentiary hearing. These matters are so critical, public and news worthy in South Florida that such a hearing would be a seminal event. Such an investigation could, possibly, affect a 15

change in the way such projects are analyzed; a pathway to a timely solution to what is causing the current problems in the CCS could be set out leading to corrective action following an independent analysis of the operation. Hopefully pure science will prevail. Corrective action should not be influenced by economics, politics or jurisdiction.

CASE respectfully requests the Commission to uphold the the Board's Order and that an evidentiary hearing be held.

Executed in Accord with 10 CFR § 2.304(d).

Respectfully submitted,

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Dated at Miami, Florida
this 12th day of May, 2015

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NUCLEAR REGULATORY COMMISSION

In the Matter of)
FLORIDA POWER & LIGHT COMPANY) Docket Nos. 50-250 and 50-251-LA
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Units 3 & 4)

May 12, 2015

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing CITIZENS ALLIED FOR SAFE ENERGY NOTICE OF AND FILING OF A BRIEF IN OPPOSITION TO FPL AND NRC STAFF APPEALS OF LBP-15-13 have been served upon the following persons by electronic mail.

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Turkey Point, Units 3 & 4, Docket Nos. 50-250 and 50-251-LA
CITIZENS ALLIED FOR SAFE ENERGY NOTICE OF FILING A BRIEF IN
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Respectfully submitted,

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Dated at Miami, Florida
this 12th day of May, 2015

Docket, Hearing

From: Barry White <bwtamia@bellsouth.net>
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Subject: CITIZENS ALLIED FOR SAFE ENERGY NOTICE OF AND FILING OF A BRIEF IN OPPOSITION TO FPL AND NRC STAFF APPEALS OF LBP-15-13
Attachments: CASE brief in opposition to FPL and NRC appeal Apr 17 15.pdf; COS May 12 2015 Turkey Point 3 & 4 (50-250 and 50-251-LA)-3 2 copy.pdf

Please enter the attached motions into the EIE system.

Executed in Accord with 10 CFR § 2.304(d).

Respectfully submitted,

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