

November 17, 2014

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)	
)	
Florida Power & Light Company)	Docket Nos. 50-250
(Turkey Point Units 3 and 4))	50-251
)	

CITIZENS ALLIED FOR SAFE ENERGY, INC'S REPLY TO FPL AND
TO NRC STAFF ANSWERS TO ITS PETITION TO INTERVENE
AND REQUEST FOR A HEARING

I. INTRODUCTION

Pursuant to 10 C.F.R. § 2.309(i), Citizens Allied for Safe Energy, Inc., (CASE), a Florida Not-For-Profit Corporation, hereby files its reply to the Nuclear Regulatory Staff (NRC) and Florida Power and Light Company (FPL) answers both dated November 10, 2014, to CASE's Petition to Intervene and Request For A Hearing filed on October 14, 2014 regarding FPL's license amendment request to increase the ultimate heat sink (UHS) temperature limit for Turkey Point Unit Nos. 3 and 4. Because the answers are similar in structure and content CASE is replying to them jointly in a timely manner.

II. BACKGROUND

On August 14, 2014 the NRC posted this information in the Federal Register:

NUCLEAR REGULATORY COMMISSION
[Docket Nos. 50-250 and 50-251; NRC-2014-0176]
Florida Power & Light Company; Turkey Point Nuclear Generating
Units 3 and 4

AGENCY: Nuclear Regulatory Commission.

ACTION: License amendment; issuance, opportunity to request a hearing, and petition for leave to intervene.

SUPPLEMENTARY INFORMATION:

I. Introduction.

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, located in Miami-Dade County, Florida. The amendments revise the UHS water temperature limit in the Turkey Point TS from 100 to 104 °F and revise surveillance requirements for monitoring the UHS temperature and CCW heat exchangers. The amendments also made editorial changes to the TSs. The Staff finds that the application for the license amendments complies with the requirements of the Atomic Energy Act of 1954, as amended, and the NRC's regulations. Copies of the Staff's evaluation may be obtained and examined at ADAMS Accession No. ML14199A107. 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. Therefore, the licensee requested that the NRC process the license amendment requests under emergency circumstances in accordance with § 50.91(a)(5) of Title 10 of the Code of Federal Regulations (10 CFR). The Staff considered the circumstances (i.e. the dry weather, UHS temperature, algae

concentration, and grid reliability) and found exigent circumstances exist, in that a licensee and the Commission must act quickly and that time does not permit the Commission to publish a Federal Register notice allowing 30 days for prior public comment.

The Staff also determined that the amendment involves no significant hazards considerations. Accordingly, pursuant to 10 CFR 50.91(a)(6)(i)(A), the Commission published a notice of an opportunity for hearing and notice for prior public comment on its proposed determination that no significant hazards consideration is involved; the notice was published in the Federal Register on July 30, 2014 (79 FR 44214). The licensee's supplements dated July 22, July 24, July 26, and July 28, 2014, provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the NRC staff's original proposed no significant hazards consideration determination as published in the Federal Register on July 30, 2014. However, on July 29, 2014, the licensee supplemented its amendment request with a proposed change that did increase the scope of the request and affected the proposed no significant hazards consideration published in the Federal Register on July 30, 2014. Therefore, after considering the continued exigent circumstances related to the dry weather, UHS temperature, algae concentration, and grid reliability, and pursuant to 10 CFR 50.91(a)(6)(i)(B), the Staff used local media to provide reasonable notice to the public in the area surrounding the licensee's facility of the amendment request and the proposed determination that no significant hazards consideration is involved, and provided a shortened comment period. The licensee's supplement dated August 4, 2014, provided additional information that clarified the application, did not expand the scope of the application as noticed in the newspapers, and did not

change the NRC staff's revised proposed no significant hazards consideration determination as published in the newspapers local to the Turkey Point site. No comments have been received.

Because of the unpredictable nature of the dry weather, the UHS temperature, algae concentration, and grid reliability, the NRC determined that the exigent circumstances remain. Therefore, the NRC is issuing the amendments prior to the expiration of the superseded 14-day

On October 14, 2014 CASE submitted the referenced petition.

III. NRC Staff Concern with CASE's method of filing

In a footnote on Page 1 of the NRC Staff Answer to CASE's Petition, they express concern that CASE assumed that the permission granted in connection with an earlier filing to file by email instead of through the EIE system would extend to the current filing. The NRC Staff is correct. When we attempted to file, the NRC Hearing Docket staff advised CASE that we would have to file a motion to do this. On October 14, 2014, CASE filed Citizens Allied for Safe Energy, Inc. Petition To Submit Filings and To Receive Information By Email. On October 28, 2014 the ASLB issued ORDER (Granting CASE's Motion to Receive Service by Email).

BACKGROUND

IV CASE's REPLY TO FPL AND THE NRC STAFF ANSWERS

The answers submitted by FPL and the NRC Staff to CASE's motion addressed CASE's standing and the admissibility of each of CASE's four contentions:.

CONTENTION 1 - THE UPRATE OF TURKEY POINT REACTORS 3 & 4 HAS BEEN CONCURRENT WITH ALARMING INCREASES IN SALINITY, TEMPERATURE, TRITIUM AND CHLORIDE IN THE CCS AREA

CONTENTION 2 - THE EXIGENT CCS PROBLEMS STARTED YEARS BEFORE JULY, 2014 AND WERE BEING ADDRESSED IN 2013 AND EARLIER

CONTENTION 3 - THE MEASURES BEING USED TO CONTROL THE CCS CONDITIONS ARE EXTRAORDINARILY INVASIVE, ENVIRONMENTALLY USURIOUS AND SOME UNTESTED

CONTENTION 4 - THE CCS IS AGING, OLD TECHNOLOGY AND FPL HAS NO REDUNDANCY FOR UNITS 3 & 4 LIMITING CORRECTIVE ACTIONS

CASE'S STANDING

The NRC Staff Answer asserts

CASE Failed to Satisfy the Judicial Concept of Standing Under the judicial concept of standing, petitioners must demonstrate (1) an actual or threatened, concrete, and particularized injury (“injury-in-fact”) that is (2) fairly traceable to the challenged action (“causation”) and (3) likely to be redressed by a favorable decision

(“redressability”).^{27 (at 7)} CASE appears to assert that it satisfies the judicial concept of standing because “(1) drawing excessive water from the aquifer presents [a] tangible and particular harm to the health and well being of the co-petitioners’ members living within 50 miles of the site and who are ratepayers of the company; (2) the Commission has authorized measures the

granting of which would directly affect the co-petitioners and their members; and (3) the Commission is the sole agency with the power to approve, to deny or to modify a license to construct operate commercial nuclear power plant.”²⁸ These claims, unfortunately, are noticeable to the challenged license amendment and even assuming that CASE’s petition would be ultimately successful, there is no remedy available to CASE before the Board or the Commission to prevent FPL from drawing water from the aquifers CASE premises its standing on the extraction of water from the aquifer.²⁹ The licensee did not seek permission from the NRC for the extraction of additional water from the aquifers. Florida authorized this activity and it is unrelated to NRC’s authorization to operate the plant with increased temperature limits in the UHS.³⁰ Thus, CASE’s alleged harm is not traceable to the license amendment request for approval by the NRC and cannot be redressed through an NRC proceeding.

Assuming *arguendo* that CASE also meant to include the issues identified in each of the four contentions as a separate and independent basis for establishing standing in this proceeding, these contentions and the alleged harms are also not fairly traceable to the license amendment at issue here. In Contention 1, CASE challenges the extended power uprate granted to Turkey Point on June 15, 2012. As such, the time for challenging the amendment granting the uprate has long passed and cannot support standing in this license amendment.

Contention 2 challenges the Staff’s determination that the exigent circumstances existed sufficient to trigger a truncated notice and comment period. This contention cannot support standing as no harm has occurred to CASE or its members. CASE and its members had an opportunity to comment and to challenge the license

amendment after its issuance. As ²⁸ Petition at 4. The Petition also appears to make some unparticular and generalized claims regarding economic interests and health without providing any direct analysis of how the license amendment would result in these perceived harms. Id. at 4.

... none of CASE's assertions satisfy the traditional concepts of standing because they failed to establish that the issues complained of are fairly traceable to the actions taken (at 9)

State of Florida Permits Prior to submitting its license amendment request to the NRC, FPL sought approval from the State for additional measures to respond to increasing temperatures in the CCS. In separate requests to the State, FPL sought permission to chemically treat the CCS and inject additional water into the CCS from the **saltwater** Biscayne Aquifer and the brackish Floridan Aquifer.

The FPL answer asserts:

“In order to obtain a hearing before the NRC, a petitioner must demonstrate standing ... a petitioner must plead “the nature of the requestor’s/petitioner’s right under the Act to be made a party to the proceeding[.] . . . , CASE relies on the proximity presumption but makes no effort to show that it is applicable. Pet. at 4. ...Further, even if the aquifer withdrawals were authorized by the NRC or redressable in this proceeding (neither of which is the case), CASE does not show that such withdrawals in fact have any impact whatsoever on its members. In the vicinity of the plant, the Biscayne Aquifer (from which FPL received a temporary withdrawal authorization it has not used) is **saltwater** and the Floridan aquifer (from which FPL CASE has not identified—or even alleged—any increased risk of offsite consequences associated with the amendment sufficient to justify 7

application of the proximity presumption and instead alleged only an ephemeral environmental injury that is not traceable to the challenged NRC licensing action or redressable by this Board, it has failed to establish standing. 10 C.F.R. § 2.309(d). ... The aquifer withdrawals are brackish or **salt water**, and therefore **not from any potable resource**. (at 30).”

CASE REPLY REGARDING STANDING

CASE’s petition provided sufficient evidence that (1) an actual or threatened, concrete, and particularized injury (“injury-in-fact”) that is (2) fairly traceable to the challenged action (“causation”) and (3) likely to be redressed by a favorable decision (“redressability”) exist and that the situation in the CCS is related concurrently to the uprate of Turkey Point 3 & 4 .

INJURY IN FACT

Both the NRC Staff and FPL hold that proximity is insufficient to standing. But, it appears, that this position is based, in part, on their total misunderstanding of the nature and characteristics of the Biscayne Aquifer. Not only is the aquifer permeable permitting ready flow and interchange in all directions, especially from the 6800 miles of unlined mud ditches of the CCS, the Biscayne Aquifer is a **freshwater** aquifer and *not*, as both FPL and the NRC Staff assert repeatedly, **saltwater**. as highlighted above. FPL and NRC Staff not understanding this is critical to their management of these fragile, endangered resources and protecting the water supply. The irony in their mistake is that that is exactly what all are, or should be, working to prevent, the aquifer becoming saltwater. In 1995 the USGS 8

stated "Saltwater intrusion is a major threat to the freshwater resources of the coastal areas in southeastern Florida. USGS - Delineation of Saltwater Intrusion in the Biscayne Aquifer, Eastern Dade County, Florida, 1995.

http://fl.water.usgs.gov/Miami/online_reports/wri964285/

Figure 2 in the USGS 1995 report presents a fine representation of the structure of the aquifer and where there is fresh water. (Figure 2.--Geologic formations, aquifers, and confining units of the surficial aquifer system in central Dade County.) Saltwater intrusion is more severe today, nineteen years later, when the saltwater line at the base of the aquifer has moved well west of the CCS. The lack of freshwater from the north, through the Everglades is permitting the saltwater to move inland; every school child in Miami-Dade County know that. That is why billions are being spent to re-establish that critical freshwater flow, and FPL is using freshwater as a remedy? Unconscionable.

Further, FPL and the NRC staff do not seem to understand the properties of the very shallow water table in the Turkey Point area. Well Number 3356, about 3 miles west of the CCS has 25 year average of 3.7 feet over 25 years (range 3.5 to 3.9). Reference: USGS Average Altitude of the Water Table (1990-1999) and Frequency Analysis of Water Levels (1974-1999) in the Biscayne Aquifer, Miami-Dade County, Florida http://fl.water.usgs.gov/PDF_files/ofr02_91_lietz.pdf Table 4

They have made an assumption that water in the L-31 E canal system is expendable water and can be withdrawn without consequences when it is actually visible potable water and is vital to the people and ecology in the area and is only released under carefully controlled circumstances. All visible water in the area IS the aquifer. It really hard to understand how anyone could authorize 100 MGD, 25% of the daily supply for the County,

to be withdrawn just to produce energy and as the preferred remedy. The tragedy is that that fresh water is essential to the sea life in Biscayne National Park and in the rest of the bay nearby. The water in the aquifer, of which the L 31 E is a part, is **potable water**, although FPL holds otherwise, as highlighted above. An understanding of the fragility and movement of the water in the Biscayne Aquifer, which FPL and the NRC staff seem to lack, is critical to making informed decisions. Such an apparent shortcoming makes it clear why the residents from the adjacent cities to Key West, 128 miles away, are concerned since the CCS and Turkey Point sits on top of their water supply. The residents' standing in this matter is clear to any one who has visited and knows the wetlands that make up Turkey Point, Biscayne National Park which it abuts and the Biscayne Aquifer below. Whether or not FPL and the NRC staff recognize the residents' standing, as will be explained below, the south Miami-Dade and the Florida Keys drinking water, and agricultural and shoreline water are at risk due to potential contamination and increased salinity.

Think about this. FPL states, Answer at 30 "The aquifer withdrawals are brackish or **salt water**, and therefore **not from any potable resource**." Why would you draw salt water in an attempt to reduce salinity in the CCS? Wouldn't that be like throwing gasoline on a fire?

Further, despite FPL and NRC staff assertions that proximity is the only reason for standing presented in CASE'S petition, it is not. The petition also sites endangerment to flora and fauna which were only addressed in a limited sense or not at all since an EIS was not performed prior to the remedies being used for the allegedly exigent situation. That short cuts and hasty decisions and solutions can be made and implemented without full evaluation is no small matter for those of us who live here, so close to the land and subject to nature's forces. It does not build confidence in those

in charge of such important matters. What if such incomplete planning extends to emergency management and operational incidents? They certainly did not do well by the pregnant crocodiles and the hatchlings and juveniles along the shore by introducing poisonous copper sulfate into the CCS and drawing down huge amounts of freshwater. What biologist signed off on that? Who stands up to defend the injury to animal life? And the seagrasses aren't doing so well either.

One might also wonder at the effect of FPL releasing 142,020 pounds of ammonia from 2007 to 2012, 144,569 pounds of hydrochloric acid (aerosol) from 2004 to 2007, 31,402 pounds of lead and lead compounds from 2009 to 2012 and 14,899,011 pounds of sulfuric acid (aerosol) from 2004 to 2011 into the water ways, land and air at Turkey Point. <http://echo.epa.gov/detailed-facility-report?fid=110000914832> Could a responsible steward of the environment even think of doing that? While these releases are related to the operation of the fossil fuel plants, could they have an impact on the CCS? Could there be no injury related to these releases? Are they benign? The public deserves to know.

CAUSATION

FPL contended that warmth and dryness created the problems in the CCS; the analysis by Miami-Dade County Department of Environmental Management (DERM) based on FPL information (Exhibit 1 of the Petition) suggest otherwise. The discussion for Contention One addresses this subject pointing to temporal correlation with the uprate of Turkey Point 3 & 4. as well the occurrence of similar climatological measures which did not result in the CCS over heating or excessive algae bloom. The temporal relation to the uprate is apparent in the charts and graphs; all measure increased markedly following the uprate.. This must be analyzed. 11

Despite FPL and NRC Staff claims that the NRC cannot resolve the problems which have been placed into the hands of others, such as the Florida Department of Environmental Protection (FDEP) and the South Florida Water Management District (SFWMD), it was the NRC which placed the notification in Federal Register and which is conducting this process; DEP and SFWMD are not involved even though it was their decisions, in part, which allowed the exigent situation to occur and which determined how it should be resolved, with negative consequences. Since they did not put out a request for public comment, such concerns can only be addressed to the NRC; there are no other avenues. All of these entities created and allowed the operational situation at Turkey Point 3 & 4 to occur; they should all be a party to the solution. CASE presented solid evidence of the temporal correlation between changing conditions in the CCS and uprate. Finger pointing saying it is someone else's responsibility is no way to address serious matters. In this case, we must hold all parties accountable and all should be a party to a well considered solution. At present, the stability of the CCS is in doubt and possibly out of control.

REDRESSABILITY

There is also evidence, as described in CASE's petition, that the exigent decisions made by FPL and approved by the NRC and its surrogates might not have been prudent, carefully considered or appropriate. This applies both to exigent situation and to the planning that went into the uprate although the NRC has determined that these are infallible and not subject to review based on actual experience and events. There appears to be no mechanism for evaluation of past rulings and decisions other than petitions. These administrative hurdles are a cause of concern not only for residents but for professionals and activists in environmentally related agencies and organizations. There was no operational imperative to use these

measures, only economic. Other operational methods, shutting down or reducing the operation of one or both reactors, bringing in power from elsewhere, use of one of the dormant power sources; these could have been done not only to correct but to eliminate the problems. What we are really seeing are federal, state and local agencies dealing with a private corporation at less than arms length distance working to protect that company's bottom line instead of being good shepherds of the land and natural resources.

Previous Granting Of Standing For CASE by the ASLB

In a CASE motion dated August 17, 2010, In The Matter Of Florida Power and Light, Turkey Point Nuclear Power Plant Station Units 6 & 7, Docket Nos. 52-040 COL and 52-041 COL, Citizens Allied for Safe Energy, Inc. Petition To Intervene and Request For A Hearing, standing was granted to CASE by the ASLB on February 28, 2011:

LBP-11-06

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

E. Roy Hawkens, Chairman

Dr. Michael F. Kennedy

Dr. William C. Burnett

In the Matter of

FLORIDA POWER & LIGHT COMPANY

(Turkey Point Units 6 and 7)

Docket Nos. 52-040-COL and 52-041-COL

ASLBP No. 10-903-02-COL-BD01

February 28, 2011

MEMORANDUM AND ORDER

(Ruling on Petitions to Intervene)

INTRODUCTION

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Pending before this Licensing Board are three Petitions to Intervene challenging a combined license application (COLA) filed by Florida Power & Light Company (FPL) for two nuclear power reactors, Turkey Point Units 6 and 7, to be located near Homestead, Florida. The Petitions to Intervene were filed by: (1) Mark Oncavage, Dan Kipnis, Southern Alliance for Clean Energy, and National Parks Conservation Association (hereinafter referred to collectively as Joint Petitioners); (2) Citizens Allied for Safe Energy, Inc. (CASE); and (3) Village of Pinecrest, Florida (Pinecrest), which also requests, in the alternative, to participate as an interested local governmental body. For the reasons discussed below, we conclude: (1) Joint Petitioners establish standing and proffer one admissible contention; (2) CASE establishes standing and proffers two admissible contentions; and (3) Pinecrest establishes standing but fails to proffer an admissible contention. We therefore grant Joint Petitioners' and CASE's Petitions to Intervene, and we deny Pinecrest's Petition to Intervene. We grant, however, Pinecrest's request to participate as an interested local governmental body. (Emphasis added)

CASE respectfully requests that standing again be granted.

CASE REPLY REGARDING ITS CONTENTIONS

CONTENTION 1 - THE UPRATE OF TURKEY POINT REACTORS 3 & 4 HAS BEEN CONCURRENT WITH ALARMING INCREASES IN SALINITY, TEMPERATURE, TRITIUM AND CHLORIDE IN THE CCS AREA

Regarding Contention 1, FPL's Answer to the CASE Petition, at 21, says

“The EPU licensing actions are simply not at issue here.” True, CASE is not challenging the licensing per se. But the reason that the NRC posted a request for comments in Federal Register, shown above, is the result of the operation of the units. The exigent circumstances were not programmed, they were unexpected, unanticipated and had to be dealt with on an emergency basis. At 22, FPL states “The LAR EA specifically recognizes that the higher temperature limit could result in

higher salinity levels but concludes that this effect would be only temporary and of short duration during periods of peak summer air temperatures and low rainfall (if it occurs at all). 79 Fed. Reg. at 44,467.”

As the request for the exigent amendment attests, this benign prediction did not turn out to be the case. Exhibit 1 of the petition shows that not only have they been of long duration, they increased exponentially during and follow the uprate for the entire period the charts cover.

Regarding Contention 1, the NRC Staff Answer, at 13, states “To the extent that CASE seeks to challenge the extended power uprate (“EPU”), its challenge is not timely.”

As CASE described in its Petition, at 8, the temperature range from May to August for 2012 to 2014 was between 78 and 84 degrees, hardly catastrophic. As CASE notes, at 9, the rainfall in 2014 was 38% below 2013 and 55% below 2012. Is that sufficient to cause the problems? CASE is saying that independent scientists should look at that data to see if those differences could create the exigent circumstances being addressed to prevent them from happening again.

Further, CASE contends that objective analysis of the charts and graphs created by DERM, Petition Exhibit 1, based on FPL data, show a temporal correlation following the uprate for record high levels of salinity, temperature, tritium and chloride. The same lack of rainfall put forward by FPL as the cause of the problems also occurred years before the uprate and did not result in high temperatures in the CCS or excessive algae bloom or the increase in other elements measured. Something else is going on and should be examined. Since correlation is not causality, Is there no provision in NRC Regulations for examining the negative

results of operations to determine cause? An objective analysis of FPL's own data is hardly a "fishing expedition" as Contention 1 is characterized by FPL, at 24. It is responsible management and discharge of FPL's franchise and the NRC should require that it be done.

Regarding the timeliness of CASE's petition, this would seem to be dictated by the placement of the request for input in the Federal Register on August 14, 2014; by definition, any comment is beyond whatever previous time limits were set. The NRC was seeking relevant as opposed to simply timely, comments.

CONTENTION 2 - THE EXIGENT CCS PROBLEMS STARTED YEARS BEFORE JULY, 2014 AND WERE BEING ADDRESSED IN 2013 AND EARLIER

The NRC Staff Answer, at 18, states only "Contention 2 asserts issues outside the scope of this license amendment and not litigable, and thus, Contention 2 is inadmissible." The FPL Answer is more nuanced seeing Contention 2 as 1) a "challenge the NRC's procedural decision to issue FPL's license amendment on an exigent basis." (Petition at 24) and 2) states "Contention 2 also confuses environmental salinity concerns with the rise in CCS temperature necessitating the change in the TS safety limit requested by the LAR" (Petition at 26).

Contention 2 is actually a corollary to Contention 1 holding to the notion that the urgent situation in the CCS was not created only by allegedly current atmospheric conditions but can possibly be traced to conditions and factors which obtained much earlier. So, for the NRC, FPL and SFWMD to not even consider an historic perspective in evaluating the situation, and to seek remedies which only focus on quick fix responses is less than thorough and professional. And is not responsible. The possibility that the EPU could be at fault or that the CCS was, is and will

contribute to salinity levels in the surrounding area, although well documented, is not even on the table.

The FPL answer, Petition at 25, states “Whether the NRC processes the amendment on an exigent basis makes no difference in the ultimate outcome of the licensing proceeding because CASE still has this opportunity to request a hearing and show that the license amendment should be overturned.” Isn’t that reassuring? This really says that it makes no difference what the governmental and private industry parties do because the public, if they find out, can always challenge their decisions in court. This speaks to the basic tenants of CASE’s action which is the only avenue provided for citizens to achieve redress for injury if they can prove causation, which should be a part of any objective decision making process for those who hold and represent the public trust. If it were not for the First Amendment, we might not even be provided this opportunity given the predisposition of the parties to depend on it for judgement and assessment of their decisions giving them license to do pretty much what they want.

When, as shown above, the parties do not even seem to understand the physical nature of the precious aquifer which they cavalierly use and defoul to suit their own purposes, it is up to the judiciary to bring their actions into the daylight for analysis. It may turn out that every decision they made was correct and considered. Then again, it may not. Admitting Contention 2 would be an important tool in determining that. CASE’s Petition provides sufficient information and analysis to begin such an inquiry.

Please admit Contention 2.

**CONTENTION 3 - THE MEASURES BEING USED TO CONTROL THE
CCS CONDITIONS ARE EXTRAORDINARILY
INVASIVE, ENVIRONMENTALLY USURIOUS AND
SOME UNTESTED**

Contention 3 grew directly from the concerns of residents as well as scientists, ecologists, environmentalists, organizations dedicated to the well being of the water and land, governmental staff charged with protecting the area and activists who looked with dismay and disbelief at what was being done and what was proposed to solve the CCS problem. Poisonous copper to kill the algae (using one poison to kill another), drawing scarce and precious fresh water in great quantities from the Biscayne Aquifer, disregard for the total impact of copper on the crocodiles (they did not drop dead immediately so there must be no problem) and the leaching of salt into the aquifer from the porous hyper saline unlined canals.

The NRC Staff answer, at 18, challenges Contention 3 stating

“Contrary to CASE’s assertions, Florida, not the NRC, authorized both the chemical treatments of the CCS and the withdrawal of water from the Floridan aquifer. The instant LAR did not ask for or receive permission from the NRC to chemically treat the algae bloom in the CCS or inject water into the system. Thus, any challenge to the license amendment based on the chemical treatments and water withdrawals is outside of the narrow scope of this proceeding.”

Yet, as noted in CASE’s petition, at 5/6,

“In January, 2013 the U.S. Department of the Interior published its Annual Report on Technology Transfer FY 2012. It includes the following information:

“In 2010, the USGS Fort Lauderdale Water Science Center entered into a Technical Assistance Agreement (TAA) with Florida Power & Light Company (FPL) to collaborate on a study of salinity intrusion into groundwater at FPL’s Turkey Point Nuclear Plant in southeastern Florida. This power plant uses a recirculating cooling system. The salinity of the cooling water is greater than natural groundwater salinities in the highly permeable carbonate Biscayne aquifer located in the area. Aquifers in terrain with landforms and hydrology created from the dissolution of soluble rocks, also known as karst aquifers,

are highly vulnerable to contamination due to the hydrogeology of the landscape. In the U.S., about 40% of the groundwater used for drinking comes from such aquifers.

*Building on work done over the previous two years, in FY 2012, USGS researchers produced data and prepared multiple publications that have added to the scientific base of knowledge regarding the interaction between surface water with elevated salinities and fresh groundwater in a karst carbonate aquifer. This knowledge should help monitor, design and plan for the future construction of closed-loop cooling-canal system facilities for power plants. Data has been provided and numerous meetings have been held with stakeholders and local State and county regulators. These organizations included the South Florida Water Management District, Miami Dade Department of Planning, Environment and Regulatory Affairs and the Biscayne National Park. **The Nuclear Regulatory Commission (NRC) has also been a participating entity in the project this past year. Next steps for this project are currently under discussion by the collaborators.***” (emphasis added)

Thus, it is clear that the NRC is and has been involved with local authorities for many years in studying and authorizing all procedures relating to the operation of the CCS and cannot disclaim responsibility for the consequences thereof. Indeed, the NRC closely monitors local actions and meetings related to Turkey Point; witness the monitoring telephone link to the NRC for the Biscayne Bay Regional Restoration Committee meeting on July 16, 2014, 2014 when FPL, the FDEP and the SFWMD made their joint presentation on the Current Status of Operations, Ecology, Cooling Canals and Adjacent Waters of the Florida Power and Light Turkey Point Power Plant Site, Homestead, FL.

The NRC Staff answer, at 20, states:

“The Staff concluded in the EA that the amendment would not have an appreciable impact on the human environment. The Staff, in consultation with the U.S. Fish and Wildlife Service, determined that the amendment was not likely to adversely affect the American crocodile, a federally protected species. The Petition does not identify how the EA’s analysis errs or why its conclusions are incorrect.”

Quite to the contrary. CASE's petition, at 14-19, presents expert opinion from Dr. Philip Stoddard and from local ecologists as to the dangers of copper sulfate for crocodiles and of the reduction in available fresh water for hatchlings and juveniles, concerns not considered in the EA referenced. A CERP publication makes the same point stating:

What is the desired restoration condition?

The desired restoration condition for American crocodiles is to restore freshwater flow volume and duration and thus the frequency of low salinities in Florida Bay throughout the hatchling period for optimal growth and survival of juvenile crocodiles.

Why is this indicator important and why is it a good indicator of CERP restoration?

American crocodiles rely on estuarine environments characterized by appropriate salinity regimes and freshwater inflows (Mazzotti 1999); therefore, crocodiles can be used as an indicator of the ecological condition of mangrove estuaries to evaluate restoration success in areas affected by the Comprehensive Everglades Restoration Plan (CERP). Though adults are tolerant of a wide salinity range because of their ability to osmoregulate, juvenile crocodiles lack this ability (Mazzotti 1989). Several laboratory and field studies have investigated the relationship of salinity to growth and survival in juvenile American crocodiles (Ellis 1981, Mazzotti et al. 1986, Dunson and Mazzotti 1989, Mazzotti and Brandt 1995, Richards 2003). Most of these studies have reported a negative relationship between salinity and growth rate, particularly in hatchling and juvenile crocodiles. While predation is the primary documented cause of mortality in hatchling and juvenile crocodiles in Florida (Kushlan and Mazzotti 1989), increased growth rates are hypothesized to result in increased survival rates of hatchling crocodiles by reducing their vulnerability to some predators (Thorbjarnarson 1989), though this relationship has not been empirically tested. Crocodiles are known to nest in the southern portions of Everglades National Park and Florida Bay (Figure 4.4.1). Because 20

the CERP will affect salinity in habitats occupied by crocodiles, reduced salinity is expected to increase the productivity of prey and allow for increased juvenile crocodile growth through greater prey availability and reduced physiological stress resulting from osmotic regulation in a saline environment.

http://www.evergladesplan.org/pm/recover/recover_docs/igit/igit_mar_2005_report/

[ig_4-4_crocodiles.pdf](#)

Dr. Stoddard also has concerns that the high water temperatures could also lead to crocodile sterility and to the growth of cyano bacteria microcystines which could leach into the Biscayne Aquifer, a potentially catastrophic occurrence. There is no report of testing for the presence of this contaminant. And where did the EA or the BA address other contaminants from other sources in the CCS including hydrazine and low level radiation waste such as authorized since 2005, reference: <http://pbadupws.nrc.gov/docs/ML0704/ML070440146.pdf>

The FPL answer, at 27, states

“In Contention 3, CASE raises several environmental issues, including algae, aquifer withdrawals, impacts on crocodiles, and saltwater intrusion. ... As none of these environmental issues is relevant to slight increase to the TS limit on UHS temperature, FPL can only guess that these arguments may represent challenges to the NRC’s compliance with NEPA or with the Endangered Species Act (“ESA”). But since CASE never expressly, or even impliedly, challenges the NRC’s compliance with either law, Contention 3 cannot meet the foundational requirement that contentions provide a specific statement of the issue of law or fact to be raised. 10 C.F.R. § 2.309(f)(1)(i)

So, Exhibit 1 of the CASE Petition, a DERM graphical illustration of FPL’s own data, a matter **fact** which reveals to any objective observer that

there is a statistically significant temporal relationship between the uprate and increases in measures of the described parameters, does not, according to FPL, present an admissible contention. If that does not, one has to wonder what would? These measures almost go off of the charts on graph after graph. On September 16, 2014 the Miami Herald reported:

“Worried that rising temperatures and a festering algae bloom in Turkey Point’s cooling canals may hint at bigger problems for Florida Power & Light, Miami-Dade County officials said Tuesday they plan to assert the county’s regulatory power to find out what’s ailing the aging canals. “Clearly the cooling canal water is migrating outside the boundaries of their system,” Lee Hefty, director of the Division of Environmental Resources Management, told county commissioners before suggesting the county take action. ...”

“We have the distinction of being the only national park adjacent to a nuclear power plant,” (Biscayne National Park) superintendent Brian Carlstrom told county commissioners. “We really need to understand why this unprecedented event is happening.”

The utility has blamed below-normal rainfall on the rising temperatures and increased salinity. In July and August, temperatures exceeded 102 degrees and twice threatened to shut down the plant. Because of the spike, the Nuclear Regulatory Commission raised temperature limits to 104 degrees to keep the plant operating. “The water quality varies with the season,” Steve Scroggs, an FPL senior director, told commissioners. This summer’s rainfall over the canals is off by as much as 50 inches, he said. “That is the precipitating event that results in higher salinity and high temperatures,” he said. But Hefty argued the temperatures began rising and algae blooming after FPL temporarily shut down canal pumps when it expanded the plant to increase capacity by 15 percent. At the time, Hefty said, FPL worried temperatures would increase. “And now all of a sudden you’re going to say it’s the weather?” he asked after the meeting. “I don’t necessarily agree.”

Hotter water can lead to saltier canals. This summer, salt levels have been about 50 percent higher than normal and twice the salinity of the nearby bay. Salinity is potentially more worrisome

since the area's salt front has already crept farther inland than in other parts of the county, threatening area drinking wells. **The state is currently revising its regulations on how the canals operate. Part of the revisions eliminate strict monitoring imposed when the plant was expanded. But county commissioners agreed Tuesday that the canal problems point to the need for even more monitoring.** "There is not consensus on why this problem has gotten worse," Christopher McVoy, a hydrologist and soil physicist, told commissioners. "All the data FPL has collected needs to be included and accessible to somebody who can put it together so you're not voting for a temporary solution that becomes a permanent one and gets us into problems."

CASE would call attention to the highlighted portion of the paragraph above. Such a position by the Florida State regulatory authority begs for judicial review. In the face of an out of control CCS, the state is actually looking to reduce monitoring? Really. Echoes of Fukushima and the relation of the regulators and regulated. At least the Miami -Dade County Commission and professional staff are looking with their eyes open.

Regarding the use of Copper Sulfate and any other substance in the CCS, the Final Judgement in the United States District Court For The Southern District of Florida Civil Action No. 70-382-CA dated September 10, 1971 states:

- IV. 9 (at 6) **Shall not introduce biocides into the waters** used to cool the condensers at its generating facility except in compliance with the specifications set out in Chapters 17-3 and 17-4 Florida Administrative Code and the applicable laws and regulations of the State of Florida; (emphasis added)

The Chapters referenced in the Final Judgement have changed and the Code has been restructured but the Final Judgement prohibition does seem emphatic and the judgement did not allow much leeway. Was and is the provision being ignored? Over the past five years the Department of the Interior National Park Service has continually challenged the FEPA and the SFWMD on their authorizations regarding Turkey Point and FPL's use of chemicals, the water in the aquifer and operational measures. Some letters related to this are attached to CASE's petition. If the ASLB finds it relevant and within its purview, all parties would be served in a review of what has been done and how that relates to the intent of the Final Judgement establishing the ground rules for the operation of the CCS. The administering agencies may have gotten far a field from where they should be.

And one of our citizens asked simply, instead of trying to kill the algae bloom, why not just make use of the biomass and use it for anaerobic fermentation, animal feed, biofertilizer? Perhaps this did not fit with FPL's business plan. Or is not in the FDEP or SFWMD bag of tricks.

Clearly, CASE is not re-inventing the wheel in Miami-Dade County. Those who live and work within a stone's throw and fifty miles away from Turkey Point see it the same way. Maybe from Juno Beach, FL or Washington, D.C. it looks different; but then they are not in harm's way. And anyone who looks at the graphs in Exhibit 1 objectively would probably agree. Well, almost anyone.

CONTENTION 4 - THE CCS IS AGING, OLD TECHNOLOGY
AND FPL HAS NO REDUNDANCY FOR
UNITS 3 & 4 LIMITING CORRECTIVE ACTIONS

In its answer to CASE's petition FPL states, at 35, regarding Contention 4 "FPL's business decisions ... are beyond the purview of the NRC, far beyond the scope of this proceeding, and immaterial to the NRC's review. NCR Staff, at 20/21, states, CASE's proposed contention alleges that the Turkey Point is not safe (sic) (Petition at 5 and 22, allegedly, but there are no such statements by CASE there) to operate and FPL should be required to operate Turkey Point Units 1 and 2 in other than synchronous mode. Neither of these issues are within the scope of the instant license amendment. "

FPL'S foregoing statement would seem to be at variance with Section IV, Paragraph 10 of the Final Judgement in the United States District Court For The Southern District of Florida Civil Action No. 70-382-CA dated September 10, 1971 which states:

10. Shall, consistent with good system maintenance and operating practices providing for necessary area protection, operating reserves, and over-all system reliability, provide power to the areas it serves in the State of Florida by **drawing upon all sources of power available to it** in such combinations as to minimize the discharges of heated water from the Turkey Point plant;" (emphasis added)

Further, at VII, the Judgement states:

The relief which may be granted upon a showing of noncompliance with the operation limitation contained herein shall include but not be limited to an order requiring Florida Power and Light **to limit operation of its generating facilities** to the extent necessary to achieve compliance with the

Final Judgement. (page 10). (emphasis added).

Clearly the court addressed and made relevant FPL business decisions in the management and operation of the CCS relating it directly to the operation of the units. FPL had limited its options in controlling or ameliorating the situation, options limited by their own business and operational decisions when they repurposed units 1 and 2 and when they chose not to shut down or modify the operation of units 3 and 4 instead of asking permission to use chemicals and water withdrawals to solve the problems, possibly in violation of the referenced Final Judgement. Indeed, CASE holds, the economic imperative trumped the operational imperative when FPL decided that they could repurpose Units 1 and 2 and when they asked for extraordinary relief by amendment rather than by alternative operational means. This would seem to be what the court anticipated in the citations above. This speaks to redressability.

CASE also disagrees with FPL regarding Contention 4 because the CCS is system, as demonstrated by the need for *exigent measures*, is out of control, testing the limits of its capacity and useful life.

Please admit Contention 4.

CASE'S CONCLUSION FOR THIS REPLY

CASE and its members deserve to be given standing since they have legitimate concerns regarding the water they drink, the land they live on and love (who else stays in the path of hurricanes preparing for them six months out of the year), the flora and fauna they treasure and threats to all of them posed by economic interests. No economic cause is sufficient to deprive them of or to endanger these assets. As discussed above, there can be doubt as to their right to petition in this matter and to seek redress.

CASE does not feel that it is asking for impossible action on the 26

part of FPL or the NRC in this petition. Is it so difficult to look at the result of the 2012 EPU as evidenced by FPL's own data, Petition Exhibit 1, and to try to determine what was and is going on. This would only be problematical if someone did not want to know the answer because of its implications. The dangerous confluence of pure science and economic realities. This, CASE would suggest, is where the impartial and objective judiciary must exercise its rightful authority. Indeed, it is the only avenue of redress available to CASE and the citizens it represents. Let independent scientists and engineers access the situation; is that too much to ask? Was it better to take strong emergency action than to fully consider alternatives? Are FPL and NRC judgements and decisions so perfect that no danger lurks in them and that they are infallible Holy Writ? CASE's experts, cited above, would indicate otherwise. Also in evidence are FPL and NRC staff apparent misunderstanding as to the nature of the Biscayne Aquifer salinity and water table. As local government and federal park management have suggested, let's see what independent experts say. It would seem to be within the authority of the ASLB to require this even if the NRC does not think it is the NRC's responsibility to do so.

Please admit CASE's Contentions so that an independent, exhaustive, comprehensive and accurate assessment can be commissioned.

Respectfully submitted,

/s/ Barry J. White

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November 17, 2014

From: [Barry White](#)
To: [Docket Hearing](#)
Cc: [OCAAMAIL Resource](#); steven.hamrick@fpl.com; [Harris, Brian](#); [Roth\(OGC\), David](#); [Williamson, Edward](#); [England, Christina](#); [Tibbetts, John](#); william.blair@fpl.com; william.blair@fpl.com; [Zogby, Matthew](#)
Subject: Email filing in lieu of EIE filing from Citizens Allied for Safe Energy, Inc.
Date: Monday, November 17, 2014 4:54:28 PM
Attachments: [CASE reply to FPL and NRC answers to Oct 14 2014 .pdf](#)

As provided in ASLB ORDER (Granting CASE's Motion to Receive Service by Email)

dated October 28, 2014 Citizens Allied for Safe Energy, Inc. is filing by email attachment with copies to all parties as certificate of service.

November 17, 2014

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
BEFORE THE ATOMIC SAFETY AND LICENSING BOARD
In the Matter of _____)
_____))
Florida Power & Light Company) Docket Nos. 50-250
(Turkey Point Units 3 and 4)) 50-251
_____))
—
CITIZENS ALLIED FOR SAFE ENERGY, INC'S REPLY TO FPL AND
TO NRC STAFF ANSWERS TO ITS PETITION TO INTERVENE
AND REQUEST FOR A HEARING

Respectfully submitted,

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