UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD
Michael M. Gibson, Chairman
Dr. Michael F. Kennedy
Dr. William W. Sager

In the Matter of

FLORIDA POWER & LIGHT COMPANY — Docket Nos. 50-250-LA and 50-251-LA

(Turkey Point Nuclear Generating Units 3 and 4) — ASLBP No. 15-935-02-LA-BD01

December 1, 2015

Citizens Allied for Safe Energy's Joint Rebuttal to NRC Staff's and FPL's Initial Statements of Position, Exhibit List and Exhibits

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BACKGROUND

As directed in this Board's INITIAL SCHEDULING ORDER (Order) of May 8, 2015 in the subject proceeding on October 9, 2015 Citizens Allied for Safe Energy, Inc. (CASE), a Florida not-for-profit corporation, filed *pro se* an INITIAL STATEMENT OF POSITION, TESTIMONY, AFFIDAVITS AND EXHIBITS. (CASE's SOP) The Order states, at 8,

> B. *CASE's Rebuttal Statement of Position, Testimony, Affidavits, and Exhibits*
>
> *By November 20, 2015, CASE shall file its written response statement of position, rebuttal testimony with supporting affidavits,*

and rebuttal exhibits, pursuant to 10 C.F.R. § 2.1207(a)(2).

On October 19, 2015 this Board issued *ORDER (Granting Request for Extension of Time)* which states, at 2, (that the original November 20, 2015 date for CASE's Rebuttal Statement of Position and Written Testimony) will now be December 1, 2015. Accordingly, CASE is filing in a timely manner.

On November 10, 2015 the NRC Staff filed *NRC STAFF'S INITIAL REBUTTAL STATEMENT OF POSITION REGARDING CONTENTION 1.* and FPL filed its *INTIAL STATEMENT OF POSITION.* Since the two Statements are very similar in their positions on most issues CASE is filing a joint rebuttal.

TESTIMONY AND AFFIDAVITS

CASE EXPERT WITNESS SWORN TESTIMONY AND AFFIDAVIT:

Dr. Philip K. Stoddard

Q1 Please state your name, occupation, and by whom you are employed.

A! Philip K. Stoddard, Professor, Dept. Biological Sciences, Florida International UniversityMayor, City of South Miami

Q2 Please provide your educational background relevant to the current proceedings

A2 BA biology, Swarthmore CollegePhD animal behavior and physiology, University of WashingtonPostdoctoral Fellow, neurobiology and behavior, Cornell University

Q3 Please provide your employment history relevant to the current proceedings

A3 US Fish and Wildlife Service, 1977-1980. Disturbance ecology.FIU, 1992-present. Supervised graduate students and reviewed research proposals in all manner of wetlands ecology projects, directed restoration of wetlands for conservation and educational purposes, conducted research on physiology of freshwater vertebrates, managed lakes and ponds.

Q4 Have you read the NRC's Environmental Assessment And Final Finding Of No Significant Impact (2014 EA) (copy attached) issued July 31, 2014?

A4 Yes.

Q5. Based on the following Contention as formulated by the Atomic Safety Licensing Board of the Nuclear Regulatory Commission in its Order of March 23, 2015, in your professional opinion, do you find any statements in the 2014 EA which would support the following Contention 1:

Contention 1:

The NRC's environmental assessment, in support of its finding of no significant impact related to the 2014Turkey 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.

A5 The NCR Environmental Assessment And Final Finding Of No Significant Impact misses several effects of allowing an increase in the peak temperature of the Cooling Canal System (CCS or ultimate heatsink) from 100° to 104°F (37.8° to 40°C). Let's consider this statement in the 2014 Assessment in the section "Aquatic Resources":

> "The CCS supports a variety of aquatic species typical of shallow, subtropical waters, including phytoplankton, zooplankton, marine algae, rooted plants, crabs, and estuarine fish. Because of high water temperatures and salinity content of the CCS, the resident fish assemblage is dominated by species adapted to living in harsh conditions, such as sheepshead minnow (Cyprinodon variegatus) and several Fundulus species."

The highest known spawning temperatures for any ray-finned fish is 93°F (34°C) for Cyprinodon nevadensis (Shrode & Kerking 1997). Short-term exposure (hours) to 34°C reduces survival egg survival by 50% in Cyprinodon macularis (Kinne & Kinne 1962). Local species of Cyprinodon and Fundulus, while relatively heat-tolerant, are unlikely to match the desert species Cyprinodon nevadensis for heat tolerance. Gametogenesis in all animals (except birds) is disrupted at temperatures exceeding 95°F

(35°C) (Kim et al. 2013, Moatani & Wainright 2015). The increase in allowable peak temperature signifies a concomitant increase in the time that the water temperatures will exceed the maximum temperature for fish reproduction. Thus, even if the fish and invertebrates residing in the canals are able to survive for the duration of elevated water temperatures, their reproduction is inhibited, and thus populations will diminish.

The “Aquatic Resources” section continues:

> “The CCS is owner-controlled and closed to the public; thus, fish and other aquatic biota in the CCS do not carry any commercial or recreational value.”

While this statement is true, it ignores the important biological value of these fish and aquatic biota in the food chain for mobile piscivorous predators that have resided in and foraged in the CCS since it was created, including American crocodiles, wading birds, terns, etc. Likewise the statement ignores the threatened status of the American crocodile which constitutes “other aquatic biota” of considerable value.

Mazzotti (1983) reported that American Crocodiles seek temperatures just below 86°F (30°C) and show signs of physiological stress exceed 100°F (38°C). Nile crocodiles die at temperatures approaching 104°F (40°C) (Hutton and Brennan 1985 in Hutton and Child 1989).

Adult American crocodiles can survive in hypersaline water up to 80 ppm

(Inchautegui et al. in Thorbjarnarson 1989), but juveniles cannot survive above 43 ppt (Carney in Thorbjarnarson 1989, Gaby et al. 1981). Juveniles do not perform well in hypersaline environments (Mazzotti 1983) and avoid such conditions in nature, preferring salinities in the range of 0-20 ppt (Cherkiss et al. 2011).

The section of the Assessment on “CCS Chemical Treatments” states:

> “Regarding crocodiles, the NRC's July 25, 2014, biological assessment notes that FPL has not observed any behavioral or distributional changes or any other noticeable differences that would indicate effects to crocodiles resulting from either the presence of higher algae concentrations or the recent chemical treatments.”

In considering crocodile welfare, the NRC ignores the questions of salinity and temperature on the crocodiles. According to FPL, the crocodile population at Turkey Point crashed in 2015, with a 78% decline in the number of crocodile nests within the CCS, and a 90% decline in the number of tagged hatchlings.

The literature suggest that elevated temperatures in the CCS have produced thermal and hypersaline conditions that are hostile to American crocodiles and other aquatic vertebrates, and the recent population crash supports this conclusion. Thus, granting permission to exceed water temperatures of 100°F (37.8° C) can only be seen as granting permission

to eliminate American crocodiles and other fauna from the CSS.

The Contention asks whether hypersaline water migrating out of the CSS could also have deleterious effects on Biscayne Bay. Migration of the hypersaline water through the porous oolitic limestone into the Bay is expected to create conditions shown above that are avoided by young crocodiles and are harmful to a variety of aquatic life.

Likewise the Contention considers the consequences of pumping freshwater into the CCS to reduce its salinity. FPL has argued that pumping water from the L-31E is needed when periods of low rainfall contribute to hypersalinity in the CCS. Those same periods of low rainfall are precisely when Biscayne Bay and the Southeast Coastal Everglades are in greatest need of freshwater delivery. Thus FPL could not draw water from the L-31E at a worse time, or one likely to produce greater impact on the Bay and Southeast Coastal Everglades.

The NRC predicts no deleterious effects from application of copper sulfate to control cyanobacteria (“blue-green algae) within the CCS. The report notes that most of the copper is adsorbed by the sediments. However the report also notes that sedimentation of the CCS is reducing flow, which could make it advantageous to dredge the sediments in the future. The report makes no mention of whether copper-bound sediments may be safely or legally relocated because of their potential toxicity.

FPL’s operation has created thermal and hypersaline conditions inside the

CCS that are inhospitable to reproduction and survival of American crocodiles and other aquatic fauna. The proposed elevation of the permitted temperature limits from 100° to 104° effectively sanctions the elimination of crocodile reproduction within the CCS. Migration of hot, hypersaline water into the surrounding bay, and consumption of freshwater destined for the surrounding Coastal Everglades attempts to correct salinity problems in on FPL's site by relocating those problems from the CCS to the surrounding habitat on public lands and waters. Construction of cooling towers for the existing Turkey Point generators would likely be preferable to this game of environmental three-card-Monte.

Literature Cited:

Cherkiss MS, Romañach SS, Mazzotti FJ (2011) The American Crocodile in Biscayne Bay, Florida. Estuaries and Coasts. DOI 10.1007/s12237-011-9378-6

FPL American Crocodile Annual Report. July 2015, Submitted to USFWS.

Gaby R, McMahon MP, Bonsack BA, Gillies WN, Gleman J (1981) The population of the American crocodile, *Crocydylus acutus* (Reptilia, Crocodilidae) at the Turkey Point power plant site. Coral Gables: Metcalf and Eddy, Inc.

Hutton JM & Child GFG (1989) Crocodile management in Zimbabwe. pp 62-79, in *"Crocodiles: Their Ecology, Management, and Conservation"*. International Union for Conservation for Nature and Natural Resources. Gland Switzerland, ISBN 2-88032-987-6

Kim B, Park K, Rhee K (2013) Heat stress response of male germ cells. Cell Mol Life Sci 70, 2623–2636.

Kinne O & Kinne EM (1962) Rates of development in embryos of a cyprinodont fish exposed to different temperature-salinity oxygen combinations. *Can J Zool* 40: 231-253

Mazzotti FJ (1983) The ecology of *Crocodylus acutus* in Florida. PhD thesis. Pennsylvania State University, University Park PA.

Motani, R & Wainwright PC (2015) How warm is too warm for the life cycle of actinopterygian fishes? *Sci Rep* 5, 11597.

Shrode JB & Gerking SD (1977) Effects of constant and fluctuating temperatures on reproductive-performance of a Desert Pupfish, *Cyprinodon n. nevadensis*. *Physiol*

Zool 50, 1–10

Thorbjarnarson JB (1989) Ecology of the American Crocodile, *Crocodylus acutus*. pp 228-259 in *"Crocodiles: Their Ecology, Management, and Conservation"*. International Union for Conservation for Nature and Natural Resources. Gland Switzerland, ISBN 2-88032-987-6

AFFIDAVIT OF Philip K. Stoddard

I, Philip K. Stoddard, do hereby declare under penalty of perjury that my statements in the foregoing testimony and my statement of professional qualifications are true and correct to the best of my knowledge and belief.

Executed in Accord with 10 CFR 2.304(d)/

Philip K. Stoddard

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Executed at Miami, Florida
on the 27th of November, 2015

STATUS OF OTHER EXPERT WITNESS REQUESTS.

On November 3, 2015, CASE submitted a MOTION REQUESTING SUBPOENAS FOR EXPERT WITNESSES FOR JANUARY, 2016 EVIDENTIARY HEARING (ML15307A470) to this Board. On November 12, 2015 this Board issued an "ORDER (Denying CASE?s Application for Subpoenas).(ML15316A424)."

On November 16, 2015 CASE sent the following email message to these possible expert witnesses identified so far:

Mr. Lee N. Hefty
Director of Environmental Resources Management (DERM),
Miami-Dade Department of Regulatory and Economic Resources

Mr Craig Grossenbacher
Geologist, Environmental Resources Management (DERM),
Miami-Dade Department of Regulatory and Economic Resources

Message to Mr. Hefty and Mr. Grossenbacher:

Citizens Allied for Safe Energy, Inc. (CASE) is a Florida not-for-profit Corporation. CASE is all volunteer and has no paid staff or consultants. All legal filings are done pro se.

On March 23, 2015 the Atomic Safety Licensing Board (ASLB) of the Nuclear Regulatory Commission (NRC) issued MEMORANDUM AND ORDER (Granting CASE's Petition to Intervene) (Order) (copy attached) granting CASE standing and admitting one Contention (at 24):

"... the Board admits Contention 1, narrowed and reformulated to read as follows:

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 (Cooling Canal System) 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 Request for Voluntary Sworn Testimony

In the referenced Order, the ASLB granted CASE an evidentiary hearing which was subsequently directed to be held in Homestead, FL on two days during the week of January 11, 2016.

On October 9, 2015 CASE filed CITIZENS ALLIED FOR SAFE ENERGY INITIAL STATEMENT OF POSITION, TESTIMONY, AFFIDAVITS AND EXHIBITS (copy attached).

CASE is hereby requesting that you voluntarily agree to provide sworn written and oral testimony in this matter. Your testimony would be in support of the matters addressed in the Initial Statement of Positions. A written statement will be requested including your qualifications, relevant employment experience and comments on the positions in the Initial Statement based on your areas of expertise. Oral testimony would be provided at the January, 2016 hearing in person or by telephone, if that is preferred.

CASE is making this request of you because of your unique, specific and extensive knowledge and experience of this subject. CASE would appreciate a response by Wednesday, November 18, 2015.

Thank you for your assistance in this matter.

On November 24, 2015 CASE sent a follow up email to Mr. Hefty and Mr. Grossenbacher requesting a response. As of this writing CASE has not received a reply from them or from Miami-Dade County. **CASE will fill a new motion for subpoenas for these expert witnesses for testimony at the Evidentiary Hearing.**

On November 16, 2015 CASE sent the email message below to Mr. Michael Stevens, DOI attorney, requesting sworn expert testimony from the following NPS witnesses:

Mr. Brian Carlstrom
Superintendent, Biscayne National Park

Ms. Sarah Bellmund
Ecologist, Biscayne National Park

TO: Michael Stevens
Attorney-Adviser
Office of the Regional Solicitor
Southeast Region
404-331-5617
mike.stevens@sol.doi.gov

Mr. Stevens, on November 3, 2015, Citizens Allied for Safe Energy, Inc. (CASE) filed a motion before the ASLB requesting that subpoenas be issued for certain individuals including Superintendent Brian Carlstrom and Ecologist Sarah Bellmund of Biscayne National Park for sworn testimony in the matter described in the attached ASLB Order of March 23, 2015 (copy attached). On November 12, 2015 the ASLB replied (copy attached) denying that request.

At 1,2 the November 12, 2015 Order states:

> *Although the Board has the power to issue subpoenas, CASE has not demonstrated that it is appropriate for the Board to compel these five witnesses to provide testimony. In the first instance, it is unclear what efforts, if any, CASE has taken to obtain testimony voluntarily from these witnesses.*

CASE Request For Voluntary Sworn Testimony

CASE is hereby asking the NPS whether or not the individuals named above will be permitted by the NPS to voluntarily provide sworn

testimony in the subject matter and, further, if they agree to do so. The nature of their requested testimony was fully described in the Touhy request. If you require additional information to reply to our request please let us know. Otherwise CASE would appreciate a timely response, possibly by Wednesday, November 18, 2015. Thank you for your assistance in this matter.

On November 24, 2015 CASE received the following email from Mr. Stevens:

Stevens, Michael <mike.stevens@sol.doi.gov>

To Barry White

CC Brian Carlstrom Sarah Bellmund Joan Lawrence Donald Jodrey Stan Austin and 4 more...

Nov 24 at 1:47 PM

Mr. White:

In response to your e-mail of November 16, the employees will not voluntarily testify in the NRC matter as you requested. Be advised that even if they did, because you are seeking their expert testimony they are required by NPS regulations at 43 CFR 2.290 to first obtain the approval of the agency ethics office. That approval has not yet been sought, and will not until the employees receive a subpoena from the NRC.

Please let me know if you have any questions.

Michael Stevens
Attorney-Adviser
Office of the Regional Solicitor
Southeast Region
404-331-5617

CASE will file a motion requesting subpoenas for these expert witnesses for the Evidentiary Hearing.

CONTENTION 1

As formulated by the Board in its MEMORANDUM AND ORDER (Granting CASE's Petition to Intervene) of March 23, 2015 (ML15082A197) Contention 1 reads, 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.*
>
> *Of course, the question whether the EA is, in fact, sufficient to satisfy the NRC Staff's NEPA requirements is not the focus of our inquiry here but must await consideration at a full evidentiary hearing."*

CASE REBUTTAL TO NRC STAFF'S POSITIONS AND TO FPL'S SIMILAR POSITIONS (following the index to the NRC SOP)

III. The Staff's Environmental Assessment Should Be Upheld Because It Satisfies NEPA

CASE Rebuttal:

The one paragraph statement at 11, 12 does not address how the 2014 EA addressed the many NEPA obligations presented in the CASE SOP, pages 58 to 15, seventeen pages of discussion. The six points made in the NRC paragraph

cited do not speak to the requirement of Contention 1 to consider the *impact* of temperature and salinity. Just saying that the 2014 EA satisfied NEPA does not make it so.

CASE would point to the *NOTICE OF VIOLATION AND ORDERS FOR CORRECTIVE ACTION (*NOV) (CASE SOP, at 44,45; attachment 5)) issued to FPL by Miami-Dade County Department of Environmental Regulation (DERM) on October 6, 2015 as evidence that not only NEPA was disregarded but so were many fundamental considerations including full consideration of the six points the NRC Staff enumerated. The NOV cited:

> *...wells outside of the... (CCS) and beyond the boundaries of the property (had) chloride levels (which) constitute violations of the water quality standards*
>
> *...chloride levels exceed the applicable clean-up target level set forth in Section 24-44 and therefore constitute water pollution*
>
> *A review of tritium data shows that the groundwater originating from the CCS has expanded beyond FPL property boundaries. Based on the foregoing information, DERM maintains that hypersaline water attributable to FPL exists in the groundwater outside the CCS and outside the property boundaries.*

Clearly the problems existed in July of 2014 and still exist but nothing the NRC Staff did in its 2014 EA did or could have done would have

revealed or did reveal these circumstances related the emergency or the operation of the CCS in general, which is also on the table. NEPA was not at the party.

A. Salinities In the CCS Are Not Expected to Be Appreciably Changed by the Increased Temperature Allowed By the License Amendments ..... - 12 -

CASE Rebuttal:

The NRC Staff stats, at 12,

> *"CASE states that the crux of its argument is: "[t]emperature increases would also increase CCS water evaporation rates and result in higher salinity levels."*[62] *However, CASE's unsupported assertions do not indicate that the Staff's EA or FONSI is flawed."*

CASE argues that one flaw in the Staff's 2014 EA is not fully considering the consequence of events predictable from elevated water temperature, in this case, an increased rate of evaporation and the resulting increase in salinity; the temperatures in the CCS were already far beyond what had been anticipated the 2012 EA. The proposed temperature increase was on top of already elevated temperatures at a time when, because of heightened evaporation, the salinity had already risen to over 90 ppt, almost three times that of saltwater. NRC comparisons with supposedly similar situations overlooks the fact that these remote locations were at much lower temperatures than we are encountering here at Turkey Point.

In NRC-001, NRC Staff Testimony, at 36,

> *For instance, in April 2014, the NRC issued an amendment revising Technical Specification 3/4.7.11 of the Millstone Power Station, Unit 2, license to increase the TS UHS temperature limit from 75 °F to 80 °F, the Safety Evaluation for which found that the amendment met the eligibly criteria for categorical exclusion set forth in 10 C.F.R. § 51.22(c)(9) (Ex. NRC-043 at 10).*

The maximum temperature of 80 F is far from a maximum of 104 F, and, according to the referenced document, " the water source for the UHS is Long Island Sound which is connected to the Atlantic Ocean (at 3). The CCS is hardly comparable.

NRC-029, HOPE CREEK GENERATING STATION - ISSUANCE OF AMENDMENT Safety Evaluation, at 1, states

> *The proposed amendment would revise TS 3.7.1.3, " Ultimate Heat Sink," to permit continued plant operation if the temperature of the ultimate heat sink (UHS) exceeds 89°F, provided the UHS temperature averaged over the previous 24-hour period is verified at least once per hour to be less than or equal to 89°F, and the UHS temperature does not exceed a maximum value of 91.4°F. The UHS for Hope Creek is the Delaware River.*

Here again, the UHS is much different from the Turkey Point CCS ; the temperatures involved are much lower; and the Delaware River is not a

confined system on a fragile Turkey Point Wetland in the Southeast Coastal Everglades.

.

NRC-030 Issuance for Nine Mile Point UHS Cat X ML041170234 Safety Evaluation states, at 1,

> *"The licensee proposed to revise TS Section 3.7.1 to add new actions when UHS temperature exceeds the current TS temperature limit. A new TS condition would be entered when the water temperature of one or both service water system supply headers (the temperature measurement points for the UHS) is >82 F and 84 F. If the condition is entered, verify once per hour that the water temperature of the SW supply headers is 82 F averaged over the previous 24-hour period. Additionally, a fifth SW pump is to be placed in operation within 1 hour. The NMP2 SW system is a once-through system that supplies water from Lake Ontario to..."*

Again, much lower temperature, a totally different system and much different operational challenges. If the point was to show that a categorical exclusion was provided in these cases, they are not comparable to the situation at Turkey Point so the analogy does not hold.

As noted at 23 and 43 in the CASE SOP, biological processes within the CCS are increasing temperatures and causing an increase in cyanobacterial (blue-green algae) bloom, increasing hypersaline water exchange with the aquifer and requiring exorbitant amounts of water for

mitigation; the 2014 EA did not adequately address the impact and the implications of temperature on the entire ecosystem.

B. The Temperature Increase Allowed by the License Amendments Is Not Expected to Occur Frequently or Be of Long Duration ..... - 14 -

CASE Rebuttal:

> *THE NRC SOP, at*
>
> > *Even assuming that the temperature increase could materially change the saltwater intrusion behavior, the Staff's analysis determined that the temperatures exceeding the previous limit would not occur frequently or last for extended durations. Staff's Testimony at 38-39, 44, 49-51. ...To examine the impacts from sustained operation at 104 °F, when operational history indicates that these temperatures are unlikely and would be of a short duration, would not be a reasonable analysis under NEPA.*

Anyone living in South Florida would not bet on the weather, especially on temperatures not increasing. In fact, at this writing, South Florida is experiencing record high temperatures with no sign of that abating. On November 10, 2015 West Palm Beach, Florida recorded record highs with high temperatures for the ninth day in a row.[1] And this pattern of record high temperatures was true for many cities in the area. To cavalierly predict that the temperature increases in the CCS would *"be of short duration"* is hardly a professional conclusion and is less than scientific. It

also assumes that the exact cause or causes of what has been experienced are known with some scientific basis that can be demonstrated and evaluated by experts. NEPA Sec. 102 [42 USC § 4332] (2) states:

> *" (C) include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on --*
> *(i) the environmental impact of the proposed action,*
> *(ii) any adverse environmental effects which cannot be avoided should the proposal be implemented,*
> *(iii) alternatives to the proposed action,*
> *(iv) the relationship between local short-term uses of man's environment and the maintenance and enhancement of longterm productivity, and and*
> *(v) any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented. Prior to making any detailed statement, the responsible Federal official shall consult with and obtain the comments of any Federal agency which has jurisdiction by law or special expertise with respect to any environmental impact involved. Copies of such statement and the comments and views of the appropriate Federal, State, and local agencies, which are authorized to develop and enforce environmental standards, shall be made available to the President, the Council on Environmental Quality and to the public as provided by section 552 of title 5, United States Code, and shall accompany the proposal through the existing agency review processes;*
> *…*

(E) study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources;

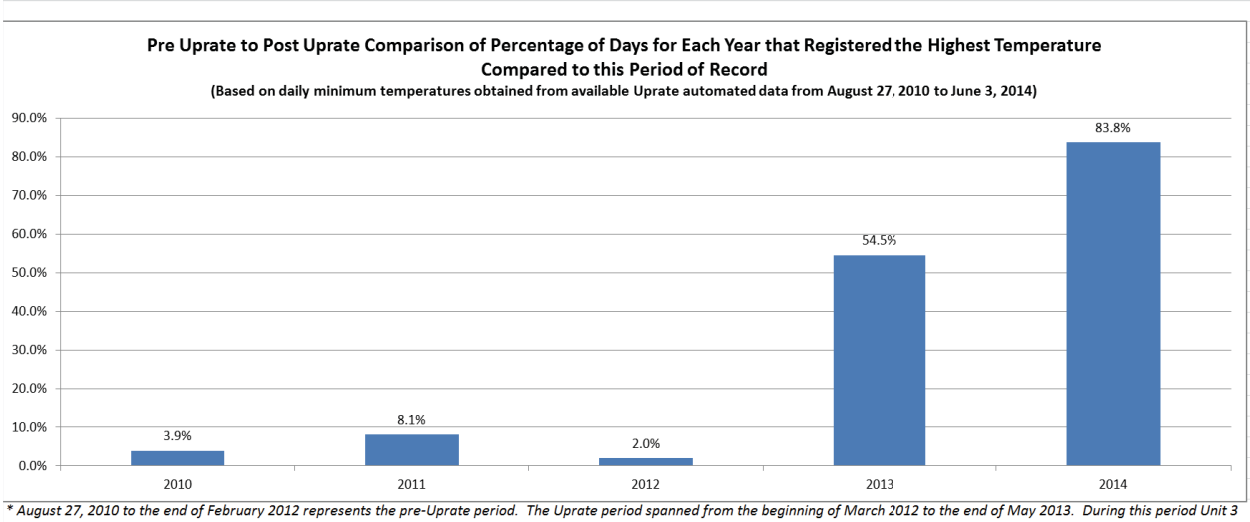
Were any of these NEPA requirements met in the 2014 EA process? One would be hard pressed to show it.

In NRC-001 NRC Staff Testimony, we read, at 39,

> *Although the heat discharged from Units 3 and 4 to the CCS increased with the EPU, the total heat discharged from Units 1, 3, and 4 after the EPU is less than the total heat discharge from all four units prior to the EPU.*

Assuming that this statement is true and was known to the NRC Staff in July, 2014 shouldn't this have triggered questions about what was really happening in the CCS and why the measurements were going off the charts as seen in several slides in INT-002? Slide 22, *Pre and Post Uprate to*

1 http://weatherplus.blog.palmbeachpost.com/2015/11/10/high-temps-could-tie-or-beat-records-today/

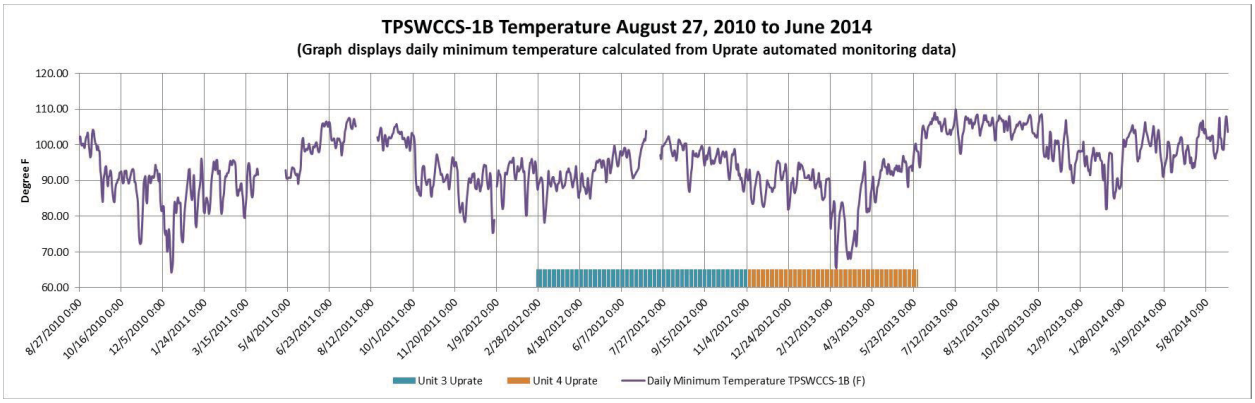


** August 27, 2010 to the end of February 2012 represents the pre-Uprate period. The Uprate period spanned from the beginning of March 2012 to the end of May 2013. During this period Unit 3 was down from early March to early November of 2012 and Unit 4 was down from early november of 2012 to late May 2013. Post Uprate period starts on June 2013. This graph summarizes the temperature data from the automated monioring avaialble in FPL's EDMS for this station for the period from August 27, 2010 to June 3, 2014. It is noted that within this record period there are some days for which no data is avaialble.*

INT-002 Slide 21 - Apparent Higher Than Expected CCS Surface Water Temperatures Post Uprate

Comparison of Percentage of Days for Each Year That Registered The Highest Temperature Compared To This Period Of Record we see that for the years 2010 to 2013, the average increase was 4.67%. In 2013 it was 54.5% and in 2014 it was 81.3%. Clearly a major change occurred in the CCS to create such a trend of increasing temperature at alarming rates. Apparently this was not a matter of concern to the NRC staff; no inquiry was made or planned to look for reasons and solutions

or to consider the impact or consequences of such temperatures in and beyond the CCS.



INT-002 Slide 22. Pre and Post Uprate Temperature Profile for TPSWCCS-1B

In Slide 22 we see that from 2/12/2011 to 2/12/2013, except for one reading, the temperature Profile for well location TPSWCCS-1B never exceeded 100 F. After that, the temperature increased steadily reaching 110° F around June 2013 and staying above 100° F until the winter of 2013/2014 before moving up again. Looking at the Chart objectively, one can see that higher post uprate temperatures are being sustained. This information was available in July of 2014 but does not seem to have been among factors considered in the FONSI conclusion.

And the many times the NRC SOP and the 2014 EA state and conclude that events are of short duration and will return to normal on their own is a basic fault in the NRC Staff approach to this entire inquiry.

C. Higher Temperatures in the CCS Mitigate the Migration of Hypersaline Water from the CCS ..... - 16 -

CASE Rebuttal:

The NRC SOP, at 16, states

> *The premise of CASE's contention is that higher temperatures are uniformly bad for controlling the saltwater intrusion from the CCS. CASE's SOP at 20. As explained above, the increase in temperature is unlikely to have any real lasting impact on the CCS. Staff's Testimony at 44-50. Moreover, contrary to CASE's unsupported assertions, increases in temperature are likely to mitigate saltwater intrusion in the area surrounding Turkey Point. Staff's Testimony at 45. In particular, increasing temperatures in the CCS mitigate the rate of hypersaline water migrating from the CCS into the Biscayne Aquifer. Staff's Testimony at 45. This conclusion is supported by research specifically directed to modeling the CCS. Staff's Testimony at 45.*

Clearly, these NRC SOP statements are counter intuitive assertions beyond the scientific ability of this writer to contest. Dr. Philip K. Stoddard, biologist and a CASE expert witness in these proceedings, on reading this statement, observed:

> *Fact is, the chloride and tritium levels in Biscayne Bay adjacent to the CCS are elevated over other areas of the Bay. Inference from the referenced models are contradicted by empirical measurements. The NRC cannot legitimately deny that chloride and tritium are moving from the CCS into the surrounding natural protected waters.*

Further, CASE will stand with its presentation on these subjects in its SOP and defer to planned expert witnesses from Miami-Dade County Department of Environmental Regulation (DERM) to comment on this NRC Staff rebuttal:

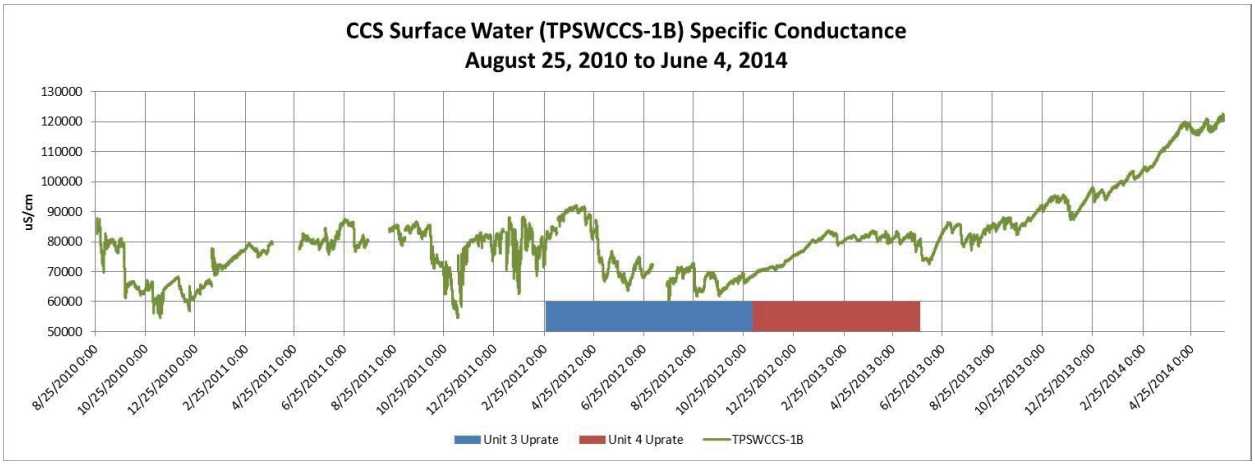
In NRC-001 Staff Testimony we read, at 45,

> **Q54. Could you explain how the Staff made the conclusion that the LAR was not likely to impact the groundwater at Turkey Point?**
>
> A54. (AK, BG, NH, WF) The Staff concluded that the LAR was not likely to significantly affect groundwater at Turkey Point because: (1) the change in the temperature limit and FPL's mitigating actions do not impact saltwater intrusion; (2) the time that the CCS was expected to exceed the previous temperature limit was of short duration; (3) the increase in the temperature limit reduces the plants' need to consume additional water; and (4) the State was already directing the licensee to address the salinity within the CCS.

These statements are in defense of NRC Staff action in July, 2014. Dr. Stoddard notes, regarding 1) above:

> *Intrusion from the Bay is not affected by change in CCS temperature. But elevated temperature in the CCS creates intrusion from above – the CCS itself becomes the source of saltwater intrusion*

Currently, DERM was sufficiently concerned about the impact of the CCS on ground water pollution outside of the CCS to issue a Notice Of Violation to FPL on October 6, 2015 specifically on ground water pollution outside of the CCS. And salinity in the CCS has continued to increase apace as shown in INT-002 Slide 12. *Specific Conductance for CCS Surface Water Station TPSWCCS-1B Showing Increasing Trend in Salinity*



INT-002 Slide 12. *Specific Conductance for CCS Surface Water Station TPSWCCS-1B Showing Increasing Trend in Salinity*

As Slide 22 shows, since the uprate, salinity in the CCS has risen from a specific conductance value of 80,000 to 120,000, a 33% increase, and it seems to have been holding at that rate into the spring of 2014, again, information which was available to all. The actual increase in salinity is contrary to what the NRC Staff testimony predicted.

D. Increasing the Temperature Limit Reduces the Need to Consume Water to Mitigate Conditions Within the CCS ..... - 17 -

CASE Rebuttal:

In the NRC SOP, at 17, we read:

> *While perhaps counterintuitive, increasing the allowed temperature over short durations results in decreased demand to consume additional water because... This decreased water consumption demand would on the whole reduce or eliminate any environmental impact from the allowed license amendments. Staff'sTestimony at 51-54. ...increasing the allowable temperature results in increasing the CCS' capacity to store heat from all sources ...,*

Interesting conjecture. But how does this square with the fact that, as the CASE SOP (INT-042), at 57, describes, on August 27, 2014, FPL sought, and eventually received, permission to draw up to 163 MGD from the Biscayne Aquifer and has actually has dumped more than a billion gallons of water into the CCS, and is doing so today, to reduce salinity and temperature in the CCS, at great danger to the environment? In addition to withdrawing freshwater and slightly brackish water from the aquifers required to stem saltwater intrusion and to maintain the water table, freshwater is being reduced elsewhere in the area with dire consequences not considered in the 2014 EA. We are not dealing with a closed system; the CSS, groundwater, and Biscayne Bay are all interconnected as noted in

the next section. Again, expert testimony on this will be sought from DERM representatives regarding the NRC Staff statements.

FPL demonstrates a similar lack of understanding of and concern for the need for freshwater outside of the CCS especially in Biscayne National Park and the Biscayne Bay Estuary as describe in the CASE SOP at 17,18 and elsewhere. At 25 in the FPL SOP we read:

> *...in August 2014, the SFWMD approved FPL's request for a temporary withdraw of excess stormwater from the L-31 E canal.138 As FPL's witnesses explain, if not diverted the CCS, this water would have been discharged to Biscayne Bay.139 FPL again sought approval to use excess L-31 E water in 2015.140 FPL received this additional authorization to use excess storm water from the L-31 E after an existing reservation for Biscayne Bay is met during the rainy season (June 1 – November 30).141 While that approval was challenged, FPL subsequently obtained an Emergency Authorization to draw water from the L-31 E pending resolution of the administrative challenge.142 The diversion of water from the L-31 E canal, which would otherwise be released to the ocean, has no negative impact on saltwater intrusion, and instead has positive effects on the westward movement of saltwater to the extent it serves to freshen the CCS.143 These withdrawals would not negatively impact saltwater intrusion and so do not "paint a seriously different picture" of the environmental 30impacts of the project.144*

Nothing could be further from the facts on the ground as CASE sees them. All of CASE's filings in this matter speak in direct opposition to this entire statement (CASE SOP at 17, 51-58 and elsewhere) DERM Staff members will provide expert testimony that water from the L-31 E canal is, by Miami-Dade County and Florida State standards, freshwater and the role of freshwater in abating saltwater intrusion. Staff members from Biscayne National Park and Dr. Philip K. Stoddard will provide expert testimony regarding the vital and critical need for freshwater by hatchling and juvenile marine mammals in Biscayne National Park, the Biscayne Bay Estuary and generally outside of the CCS. Using freshwater to mitigate conditions in the CCS, is, at best, a temporary correction and does nothing to define and address the causes of the problems. Failure to do so and nature will eventually defeat the function of the CCS but, unfortunately, at great cost to the environment. It is all about freshwater.

E. Deep Aquifers Located Below the Confining Unit and Underlying the Biscayne Aquifer Are Not Impacted By the CCS ..... - 18 -

CASE Rebuttal:

The NRC SOP in support of this position, at 18, states:

> *"CASE asserts that potential water withdrawals could aggravate saltwater intrusion in the area of Turkey Point.*[70] ***However, CASE's unsupported assertion is unfounded.*** *(emphasis added) The deeper aquifers underlying the Biscayne Aquifer are not likely to be impacted by conditions in the CCS or withdrawal*

of water to mitigate conditions in the CCS. Staff's Testimony at 23-25, 54-56. These deeper aquifers, beginning with the Floridan Aquifer, are hydraulically separated from the Biscayne Aquifer and the CCS by a thick confining unit[71] that physically separates the Biscayne Aquifer from the aquifers below it. ... In fact, withdrawal of water from the Floridan Aquifer would, contrary to CASE's assertion, indirectly mitigate saltwater intrusion."

Two different subjects are addressed here: The impact of water withdrawal from the aquifers on saltwater intrusion and the permeability of the aquifer as related to the migration of water.

Saltwater Intrusion

Stating that CASE's position "*that potential water withdrawals could aggravate saltwater intrusion in the area of Turkey Point"* is unfounded is not correct. CASE provided extensive information and citations in support of this position in all of its filings in these proceedings. Contention 1 and Contention 3 (which was recognized as being an extension of Contention 1) of CASE's Petition To Intervene of October 14, 2014 (INT-038) speak to this with numerous citations; The CASE SOP devotes pages 13 to 16 to the subject as well as references elsewhere in the SOP. At 51 the CASE SOP provides a definitive and comprehensive statement on the subject from the USGS Ground Water Atlas which is also provided INT-047.

Saltwater intrusion is not directly related to the stated proposition of this Section E of the NRC SOP: *Deep Aquifers Located Below the Confining*

Unit and Underlying the Biscayne Aquifer Are Not Impacted By the CCS. That supposition is more closely related to a discussion of the permeability of the several layers of the aquifer which is all porous limestone and of 4,000 square miles of the South Florida aquifer. Drawing freshwater from the Biscayne Aquifer is the greatest threat to saltwater intrusion. Drawing water from the Floridan Aquifer for use in the CCS and injecting waste water into the the Boulder Zone carry the danger of polluting and befouling the entire area. And using any water in the area for the production of energy threatens every entity connected to the Turkey Point Wetland that depends on it.

What *is* unsupported is the NRC SOP position that the several layers of aquifer in South Florida are hermetically sealed from each other; there is more evidence to the contrary than in support of this theory.

The CASE SOP devotes pages 13 to 16 to the subject as well as references elsewhere in the document; INT-001 Revised provides 26 pages of scientific information. The citation (INT-013) at 15-16 reads:

> An Attack from Below
> *Water, Water, Everywhere: Sea Level Rise in MiamiUniversity of Miami Rosenstiel School Of Marine and Atmospheric Science, Miami, http://www.rsmas. miami.edu/blog/2014/10/03/sea-level-rise-in-miami/*
>
> *In addition to surface flooding, there is trouble brewing below the surface too. That trouble is called saltwater intrusion, and it is already taking place along coastal communities in south Florida. Saltwater intrusion occurs when saltwater from the ocean or*

bay advances further into the porous limestone aquifer. That aquifer also happens to supply about 90% of south Florida's drinking water. Municipal wells pump fresh water up from the aquifer for residential and agricultural use, but ***some cities have already had to shut down some wells because the water being pumped up was brackish (for example, Hallandale Beach has already closed 6 of its 8 wells due to saltwater contamination).***

The wedge of salt water advances and retreats naturally during the dry and rainy seasons, but the combination of fresh water extraction and sea level rise is drawing that wedge closer to land laterally and vertically.

In other words, the water table rises as sea level rises, so with higher sea level, the saltwater exerts more pressure on the fresh water in the aquifer, shoving the fresh water further away from the coast and upward toward the surface.

This is further evidence of the permeability and fallibility of the South Florida aquifers and their confining layers which permit migration of all water throughout the 4,000 square mile system As noted in INT-046 Dr. Donald F. McNeill (University of Miami,Comparative Sedimentology Laboratory) wrote a report in 2000[1] looking at the same question for the south M-D treatment plant. There, the presumed very thick low permeability zone was in fact only about 14 feet in thickness and lay just above the Boulder zone at a depth of 2,456'-1,443' depth. Ten of the 17 deep injection well for the effluent came out above the low permeability

zone. As you can see from the depth difference between Turkey Point and Black Point, this low permeability surface rises up to the northwest. Effluent injected at Turkey Point will flow up the surface's gradient to the NW and then probably N. IT will have lots of opportunities to encounter break*s in* the permeability barrier in this lateral travel.

[1] McNeill, Donald F., 2000. A Review of Upward Migration of Effluent Related to Subsurface Injection at Miami-Dade Water and Sewer South District Plant. Prepared for Sierra Club - Miami Group. 30 p

The NRC Staff Testimony (NRC-001), at 54, referenced above, states:

> *"A short term increase in evaporation rate will increase the heat removal rate of the CCS. Because evaporation removes the highest energy water particles from CCS, this acts as a self-correcting process for CCS temperature regulation. As these high energy particles are removed, the average CCS temperature will return back to lower levels"*

This statement will definitely require a reply from a scientist from DERM since it is not understandable by a layman and seems counter intuitive as well as not something on which one could rely to correct the the

temperature problems in the CCS. If the NRC SOP is referring to "evaporative cooling" and asserting that heating the water cools the water because hot water evaporates faster, in the end, CASE would observe, the net heat loading still increases. As the CASE SOP set out at, at 10, evaporation is on of three ways water migrates from the CCS;evaporation is a major cause of the loss of vast fresh water and any slight role it might play, as described by the NRS SOP above, in reducing temperature would not seem to be a fair trade off.

F. Florida Already Requires FPL to Monitor and Mitigate Conditions Within the CCS to Protect the Biscayne Aquifer ..... - 19 -

CASE Rebuttal:

The NRC SOP does not refer to any CASE SOP statements on monitoring or mitigation in the CCS or the surrounding area; it only make some statements about what has been done. CASE's concerns regarding monitoring are presented in the CASE SOP, at 35-45. As the CASE SOP notes, at 35, 36, the 2014 EA only made brief statements on monitoring. The strongest statements on the subject presented by CASE are quotes from DERM staff, at 42, 43, objecting to revisions in the monitoring program. One must ask if all requirements of the monitoring program have been and are being met by the applicant (DERM expert witnesses will address this); the NOV issued by DERM on October 6, 2015, INT-005,

would indicate other wise. And mitigation is a corrective action; it does not address the root cause of any anomaly.

IV. Most of CASE's Challenges Are Outside the Scope of Contention 1 ..... - 20 -

CASE Rebuttal:

The task at hand, as CASE understands it, is to determine whether or not the 2014 EA and FONSI was adequate to determine if the corrective measures proposed by FPL proposed to correct the conditions in the CCS and to reduce the impact on the environment of water migrating from the CCS and the impact on freshwater resources. CASE has presented information to illustrate less than thorough and minimally searching effort in several areas. The adequacy of the Staff's consideration of alternatives is a NEPA issue; the Staff's analysis on the impact to crocodile population and other wildlife was limited and not exhaustive and the impact of migrating CCS on wildlife outside of the CCS was not considered; and the Staff's consultation with FWS was not actually a part of the 2014 EA process; a pro-applicant conclusion was made before the conclusion of the consultation.

A. The Pace of the Staff's Preparation of an EA is Outside the Scope of the Contention .....- 21 -

CASE Rebuttal:

At 21, the NRC Staff states, ...this challenge is beyond the scope of this proceeding and ... CASE points to no statutory or regulatory requirement that prescribes a minimum amount of time required or mandated to produce an EA. CASE stands by its statement at 81, 82 of CASE's SOP as being in direct response to the concept of adequacy; quality work takes time, reflection, discussion, inquiry, posing and testing hypotheses, examining issues and facts from several angles. This is not a matter of legislation; it is best business practice and is reflective of a corporate culture. The spirit and hope of NEPA is that regulators look beyond the regulations and bring true concern and "soul" to the work they are doing especially when the environment and human needs are concerned. In the face of what FPL classified as an exigent situation, no new studies or inquires were done or proposed to define the problem; they just recycled old ones. Their only solution was, and still is, to "call out the fire brigade" and dump water on the problem, billions of gallons of water, much of it freshwater, with no real attention to the short term and long term environmental and extended impacts of doing so. Assuming prompt action was required in the CCS did this obviate beginning inquiries into what was actually causing the problems and continuing to evaluate the full impact of what was being authorized to arrive at long term, well considered, solutions.

Based on NRC-008, the NRC Staff actually only took 14 days from July 10, 2014 when FPL sent its letter regarding the CCS and, actually only, 7 days from FPL's July 17, 2014 letter (INT 035) upgrading the situation to an emergency, not 18, to send FPL (NextEra Energy) a letter on July 24, 2015 (ML14204A129):

> *SUBJECT: TURKEY POINT NUCLEAR GENERATING UNIT NOS. 3 AND 4 - INDIVIDUAL NOTICE OF CONSIDERATION OF ISSUANCE OF AMENDMENTS TO RENEWE FACILITY OPERATING LICENSES, PROPOSED NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION, AND OPPORTUNITY FOR HEARING (EXIGENT CIRCUMSTANCES) (TAC NOS. MF4392 AND MF4393)*

The letter states, at 1.:

> *The U.S. Nuclear Regulatory Commission **has forwarded** the enclosed Notice of Consideration of Issuance of Amendments to Renewed Facility Operating Licenses, Proposed No Significant Hazards Consideration Determination, and Opportunity for a Hearing to the Office of the Federal Register **for publication.*** (emphasis added)

It would appear that, by July 14, 2015, the NRC Staff had enough information and had, in its opinion, completed sufficient analysis to plan for publication of the 2014 EA and FONSI. In judging the adequacy of the 2014 EA it would seem that one would want to take this information into account.

B. The Range of Alternatives Discussed in the EA was Appropriate ..... - 21 -

CASE Rebuttal:

At 21, the NRC SOP states:

> *CASE suggests that the Staff should have considered ordering FPL "to alter the operation of one or both units in some way to reduce ... temperature from the effluent … entering the CCS. …. CASE also argues that FPL should have contemplated importing power from other sources.79 However, these matters are beyond the scope of this proceeding.*

CASE stands by its position on this subject as presented exhaustively in its SOP at 65-72. One would be hard pressed to hold that the 2014 EA met this NEPA standard:

NEPA states:

> *Sec. 102 [42 USC § 4332] (2):*
> *" (C) include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on --*
> *(iii) alternatives to the proposed action,*

~~As CASE stated in its Petition of October 14, 2015 (INT 038), this Board has the authority to determine if alternatives were sufficiently considered prior to the FONSI decision. CASE holds that they were not~~

~~As to whether or not *"these matters are beyond the scope of these proceedings*" CASE would refer to this Board's Memorandum and Order of March 23, 2015 (ML15082A197) which states, at 11,~~

> ~~*"As to whether this proceeding could afford CASE's members a potential remedy, CASE alleges "that the NRC by its own regulation does have the authority to temporarily and permanently correct this situation in these proceedings."*~~
> ~~*We agree, and are not convinced by the assertion from the NRC Staff and FPL that this proceeding presents no opportunity to redress CASE's members' claimed injury.*~~

~~CASE only requests an objective consideration of this subject.~~

C. The Board Explicitly Excluded CASE's Challenge to Crocodiles and CASE's Claims About Other Wildlife Are New and Unfounded ..... - 22 -

CASE Rebuttal:

The NRC SOP, at 22,23 states:

> *As the Board noted in LBP-15-13, the Staff's EA discussed the potential impacts on the American crocodiles from the increase to the allowed inlet temperature, the use of chemical treatments for the algae blooms, and potential salinity impacts. Therefore, the Board held that CASE's Petition did not identify a material dispute and*

denied that portion of CASE's contention. Therefore, the Board held that CASE's Petition did not identify a material dispute and denied that portion of CASE's contention. ... NEPA does not require that the Staff accurately forecast the future...

Agreed; CASE is asking anyone to use a crystal ball, just basic physics and biology. But, since the exercise at hand is to see if all available tools were used to adequately look at the situation in the CCS and the impact of what was being proposed, one would expect a little more inquiry than was apparently done. Dr. Philip K. Stoddard, biologist, as an expert witness, will be able to present more commonly known biological considerations which should have made it to the NRC Staff table.The NRC Staff did not even identify the specific cyanobacteria in the CCS and present its potential harm to the environment; some species of cyanobacteria of the genus Aphanothece found in the CCS (CASE SOP at 23) is potently toxic to vertebrates. Had this been done, perhaps stronger action might have been taken to understand its etiology and prophylaxis. The same goes for the impact of copper sulfate on the crocodile reproductive cycle and the impact of high salinity on the kidneys of crocodiles and all wild life in and near the CCS.

But, in reality, crocodiles, copper sulfate and cyanobacteria, per se, are not at issue. Invoking them only served as examples of what an adequate EA might have accounted for, possibly with exhaustive brain storming, production of hypotheses, field testing or proposing that they be field tested while the proposed mitigation was being employed. None of these possible

courses of action is apparent in the 2014 EA. NEPA would require that they should have been.

D. The Staff Consulted with the Appropriate Agencies..... - 24 -

CASE Rebuttal:

The NRC SOP, at 24, references its staff comments at 68 in NRC-001 NRC Staff Testimony:

> ***Q126. What agencies or persons did the Staff consult with during the preparation of the EA?***
>
> *A126. (BG) The Staff consulted with Ms. Cindy Becker of the Florida Department of Health and with staff at the FWS Vero Beach office pursuant to the Staff's consultation under ESA section 7.*

Ms Cindy Becker is Chief Bureau of Radiation Control for the Florida Department of Environmental Protection (FDEP). CASE would ask: Is radiation on the table in this inquiry? What are Ms. Becker's qualifications to address the issues which are? Was not anyone else at FDEP consulted? Is this what the drafters of NEPA had in mind?

It would seem that the concept of consultation was reduced to discussion in this matter with dependence on past studies and conclusions with no or limited real time consideration of the vast and delicate ecosystem at risk with the mitigation proposed.

CONCLUSION

CASE members appreciate having had the opportunity to present and discuss their concerns in these proceedings and their full and respectful review and response by all parties . All information contained in CASE's filings in the subject matter should be admitted to provide a broad and objective consideration of the important and far reaching issues at hand. If CASE has misinterpreted or not understood critical aspects of the inquiry and its recommendations and conclusions are not appropriate, that should be allowed to be revealed. CASE only seeks an effective, appropriate and sensitive outcome to its petition hoping that the Turkey Point Wetland will one day be returned to its pristine state and to its role in nurturing native flora and fauna and support of human life through uninterrupted natural processes.

Respectfully submitted,

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

/S/ (Electronically) Barry J. White

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Dated at Miami, Florida
this First day of December, 2015

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of	)	
	)	
FLORIDA POWER & LIGHT COMPANY	)	Docket Nos. 50-250 and 50-251-LA
	)	
(Turkey Point Nuclear Generating) Units 3 & 4)	)	ASLBP No. 15-935-02-LA-BD01

CERTIFICATE OF SERVICE

I, Barry J. White, hereby certify that copies of the foregoing *Citizens Allied for Safe Energy's Joint Rebuttal to NRC Staff's and FPL's Initial Statements of Position, Exhibit List and Exhibits* have been submitted to the Electronic Information Exchange.

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

Respectfully submitted,

/S/ (Electronically) Barry J. White

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Dated at Miami, Florida
this First day of December, 2015