

United States of America  
Nuclear Regulatory Commission  
  
Atomic Safety and Licensing Board

Before Administrative Judges:

Alex S. Karlin, Chair  
Dr. Anthony J. Baratta  
Dr. William M. Murphy

In the Matter of:  PROGRESS ENERGY FLORIDA, INC. Combined License Application for Levy County Units 1 & 2	Dockets Numbers 52-029-COL and 52-030-COL  January 5, 2011
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Intervenors' Reply to Applicant Answer to Contention 12

The Green Party of Florida, the Ecology Party of Florida and Nuclear Information and Resource Service (Intervenors) incorporate by reference our answer to NRC staff here. Timing of the filing of two Answers did not allow for a consolidated reply. Please see Intervenors' Reply of December 28, 2010 for summary of the above captioned proceeding in which this Reply is offered by the Intervenors. In addition we offer the Affidavit of Dr. Sydney Bacchus as attachment (1) and incorporate all specific "reply" segments in this Reply.

Intervenors contend (12) that there are two opportunities of LARGE environmental consequence that would be precluded if the proposal to split atoms on the site proposed in Levy County goes forward, and that the "alternate" sites considered by Staff would allow. Those opportunities are LARGE enough that they: 1) should have been considered by the Staff in its expanded consideration of alternatives under the National Environmental Policy Act (NEPA) and 2) should be considered now, albeit by some views late.

In its complex dance to defend a fundamentally flawed plan to place two new AP1000 nuclear power reactors atop a hydrologically inappropriate site, the construction and operation of which would jeopardize the hydroecology of an extensive and environmentally significant area and impact the health, well being and safety of our combined members in the area, the

applicant is attempting to weave together for its own purposes two different instances of “pre-existing information.” The applicant attempts to befuddle the issue by suggesting that a plan to restore the Withlacoochee River, which predates the current proposal to build reactors at the proposed Levy County site, disqualifies Contention 12 from consideration at this time.

In reply to the applicant’s insistence that we should have raised these issues with respect to the Environment Report (ER), we raise this question: is the ER omission the same as the Staff’s omission in the Draft Environmental Impact Statement (DEIS)?

Neither the applicant’s ER, nor the Staff’s DEIS consideration and weighting of “alternative sites” address the issues we raise. Indeed, it is not likely that either would address the idea of redirecting water from the Cross Florida Barge Canal (CFBC) – that the applicant proposes to use - to augment future municipal water needs since that is a NEW proposal. However, the fact that River Restoration is mentioned in both the ER and DEIS but is not factored by the NRC Staff in its DEIS evaluation of the relative merits of the Levy County site selection does not relieve the Staff of its responsibility to consider the environmental consequences of pursuing an option (the Levy County site) that would preclude the restoration of the Withlacoochee River. Interveners stand by Contention 12. If Contention 12 is found to be inadmissible because of the imposition of requirements that are truly impossible – beyond the capacity of pro se interveners – then Interveners will submit these issues as additional comments on the DEIS.

Clearly the claim that there is no plan to restore the river is unfounded. Although mis-cited by the applicant in its Answer (footnote 2), Attachment 5 to Contention 12 (filed on Disk via US postal service), Cross Florida Greenway: Watershed Evaluation of Alternative Flow Scenarios Using Hydrodynamic Models is an extensive study prepared in 2008 for the Southwest Florida Water Management District (SWFWMD) by Janicki Environmental, Inc. that includes several detailed analyses of restoration of that portion of the Withlacoochee River west of the containment structures for Lake Rousseau. While the applicant correctly quotes from the

record of the State of Florida Power Plant Siting Board proceeding, it is not actually clear from that record that SWFWMD had rejected the river restoration plan that it had obviously invested considerable resources in developing as is clear from the document we submitted. This matter should not be viewed as settled, but rather part of the obligation of NRC Staff under the National Environmental Policy Act to accurately and conscientiously consider major environmental factors in its consideration of alternative sites. From the perspective of the Withlacoochee River restoration – the selection of the Levy site will result in LARGE negative environmental impacts. See Bacchus Affidavit, Section C.

In support and as further documentation of the point that SWFWMD has invested considerable resource in the question of restoring the Lower Withlacoochee River via reconnection of hydraulic flow with the Upper Withlacoochee, we offer Bacchus Exhibits C.2., C.3. and C.4., reports by URS and Janiki, prepared under contract for the SWFWMD. The option of restoring this river has been well on the table.

Further, the portion of the recommendation of the Siting Board cited by the applicant (Re Progress Energy Florida Levy Nuclear Projects Units 1 and 2, Recommended Order on Certification, State of Florida, Division of Administrative Hearings (Case No. 08-2727EPP) (May 15, 2009) contains statements that are directly contradictory:

67. The construction of the CFBC and the bisection of the Withlacoochee River have resulted in reduced freshwater flows in the lower portion of the Withlacoochee River north of the CFBC. There is no direct connection between the CFBC and the Lower Withlacoochee River (north of the CFBC). **The flow in the By-pass Channel provides less freshwater from Lake Rousseau to the Withlacoochee River than historically flowed into the lower portion of the River. This has caused saltwater to move up the Lower Withlacoochee River, particularly during periods of low flow.**

68. SWFWMD has evaluated restoration of the River to its original condition, but has not advocated reconnection. *Reconnection of the Withlacoochee River or downstream impoundment of the CFBC probably would not prevent the impacts of increased salinity in the Lower Withlacoochee River during periods of low freshwater flow.* Although no agency is currently pursuing a project of this type, DEP has proposed a condition of certification to address future public projects for the maintenance, preservation, or enhancement of surface waters requiring modifications to the CFBC. [all forms of emphasis added].

Clearly restoration of the river is far from a settled matter. Item 67 establishes that the construction of the CFBC has negatively impacted the originally freshwater biome, but then goes on to contradict the idea that the restoration of the flow that was transected by the CFBC “PROBABLY” would not “PREVENT” impacts, without presenting any supporting data. Further the insertion of the statement “has not advocated” fails to offer sufficient support for such a significant federal decision, contingent on public interest that would prevent future restoration of the largest river in the vicinity of the proposed Levy County nuclear reactor. The fact that Interveners have not asked staff at SWFWMD to step into this matter at this time is irrelevant. We state again, NRC Staff has the obligation to consider these matters directly in the context of its obligation under NEPA and Contention 12 offers them the opportunity to do so. We are disappointed that they did not support its admission.

The applicant, like Staff, asserts that Contention 12 is not about hydroecology, and further asserts, inappropriately, that in order for the Contention to be admissible, or for it to qualify for extension, it would be necessary for Interveners to have referred to Dr. Bacchus directly. We disagree with all of these assertions, but also provide the attached Affidavit of Dr. Bacchus as additional support that Contention 12 is “about hydroecology.” See Bacchus Affidavit, Section C. Part of the basis of this Contention is that the Lower Withlacoochee River is being starved of water. In the interim, the CFBC is contributing to the coastal hydroecology as a “surrogate” for the Lower Withlacoochee River. The uptake of the CFBC water by the Cooling Water Intake Structure (CWIS) will worsen this situation and the placement of the CWIS will be incompatible with river restoration for as long as it is in this location. Clearly these are hydroecological issues. The development of these issues will require expertise, but the facts speak for themselves. Admission of a Contention requires facts OR expert opinion 10CFR2.309(f)1(v).

Lead intervener would not file any hydroecological issues in this case without the consideration of Dr. Bacchus, our hydroecological expert. Dr. Bacchus was indisposed most of

the summer with multiple physical challenges, the primary of which has resulted in a vision disability (See Attached Bacchus Affidavit, Section B). The extension of time that was granted for good medical cause, necessarily applied to all work which depended upon her consultation, participation or other engagement. The fact that Dr. Bacchus is not cited in the filing of Contention 12 is because the time extension that was granted was insufficient to accommodate her disability so she could prepare an affidavit for Contention 12 (See Attached Bacchus Affidavit, Section B). Interveners would like to note that the extension granted, while very much appreciated, was less than half of the time requested to accommodate her disability. It is without question that if Dr. Bacchus had been granted the requested time the filing would have been far superior. After the contention is admitted, the issues raised will be developed in more detail.

The applicant seems to think that simply because comments in the state of Florida proceeding reflect some of the issues raised in C-12, that this means this issue has been heard before. In fact the current filing is not the same as that in the State of Florida record, nor does the fact that these issues were not fully developed by that Siting Board relieve the Staff from a proper consideration in its weighing of alternatives. The Siting Board did not develop the matter of alternative sites to the level that NRC staff has. When the group Withlacoochee Area Residents (WAR Inc) brought pieces of these issues to the Siting Board, it did not do so from the perspective of considering alternative locations. Interveners maintain that this is the core of Contention-12 – that the hydroecological impacts to the Withlacoochee River from deferred or canceled restoration due to the insertion of the CWIS in the CFBC are an impact that must be factored into the Levy site consideration. The concomitant opportunity to create a freshwater impoundment in the CFBC is again part of what a full consideration of alternatives to the proposed Levy County site requires. The simple fact that pieces of these concerns have been discussed or published does not relieve Staff of its obligation. The institutional requirements of NRC jurisprudence which applicant would like to see applied to our team, further DO NOT relieve the Staff of this burden.

We believe that the COL process on the only Greenfield site would be greatly served by the admission and full hearing of Contention 12.

Respectfully Submitted,

\_\_\_\_\_/s/\_\_\_\_\_  
Mary Olson  
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PO Box 7586  
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on behalf of the Co-Intervenors

January 5, 2011

Attachment 1  
Affidavit of Dr. Sydney Bacchus 01-04-2011

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	January 4, 2011
Progress Energy Florida, Inc.	)	Docket Nos. 52-029-COL
Levy Nuclear Plant, Units 1 and 2	)	52-029-COL

AFFIDAVIT OF SYDNEY T. BACCHUS  
IN SUPPORT OF JOINT INTERVENERS' RESPONSE TO  
PROGRESS ENERGY FLORIDA'S ALLEGATIONS REGARDING JOINT INTERVENERS'  
CONTENTION 12 OF PROPOSED LEVY NUCLEAR PLANT UNITS 1 AND 2

Under penalty of perjury, I, Sydney T. Bacchus, Ph. D., declare as follows:

**A. EDUCATION, RESEARCH, AND PROFESSIONAL WORK EXPERIENCE**

1. **Name** - My name is Sydney Bacchus and I am a third-generation Floridian. I was a full-time Florida resident for approximately 40 years and a part-time Florida resident for approximately the past decade, while completing my doctoral degree. My business address is P. O. Box 174, Athens, Georgia 30603.

2. **Advanced degrees** - I received a Bachelor of Science degree (1972) and a Master of Science degree (1977) from Florida State University (Department of Biological Sciences). My Masters research involved evaluating the changes in wetland and aquatic plant community composition in response to changing salinity regimes and changes in hydroperiod. Hydroperiod components include: a) the depth or stage of fluctuating ground and surface water; b) the duration of the water level at a given depth and stage; and c) the periodicity and seasonality of the water level fluctuations. My minor field of study was chemistry.

3. **Multidisciplinary doctoral degree** - I have a multidisciplinary doctoral degree in the fields of Hydrology, Ecology and Plant Pathology and Physiology. In fulfillment of my Ph. D. I completed graduate-level (predoctoral) courses in Hydrology, Hydrogeology, Geochemistry and Water Quality at the University of South Florida, then transferred to the University of Georgia (Athens) to complete more extensive graduate-level courses (e.g., Soil Physics, Geophysics, Forest Hydrology, Forest Pathology, Tree Physiology and various aspects of Ecology) for a multidisciplinary doctoral degree program in Hydroecology. Hydroecology is a multidisciplinary field that combines both physical and life sciences. It is the study of the interaction between living organisms and the water-related aspects (both quantity and quality) of their environment.

4. **Research focus** - The focus of my doctoral research was adverse environmental impacts (aka effects) associated with anthropogenic (man-induced) groundwater alterations. I received my Doctorate degree from the University of Georgia (Institute of Ecology) in 1999, after successfully defending my Dissertation titled, "New Approaches for Determining Sustainable Yield from the Regional Karst Aquifer of the Southeastern Coastal Plain." My research was conducted through representative subregions of the regional Floridan aquifer system. That regional aquifer system extends throughout the entire State of Florida and the coastal plains portions of Georgia, South Carolina and Alabama.

5. **Grants** - During my doctoral program, I received several grants from state agencies in Florida and federal agencies that supported my doctoral research. One of my grants from United States Geological Survey (USGS) supported geophysical research to evaluate the



degree of connection between the Floridan aquifer and depressional wetlands throughout Florida and south Georgia. Other grants supported a controlled experiment, observing responses of native tree species to prolonged water stress and fungal pathogens. Those grants are listed in my Curriculum Vitae (CV) and incorporated into my affidavit. See **Bacchus Exhibit A**.

6. **Published literature** - I am familiar with the body of published literature relevant to my multidisciplinary area of expertise. Specifically, these include the fields of Hydrology, Hydrogeology, Submarine Groundwater Discharge, Geochemistry, Water Quality, Geophysics, Forest Hydrology, Forest Pathology, Tree Physiology and various aspects of Ecology, including freshwater, estuarine and marine ecosystems as they relate to Florida's wetlands, other special aquatic sites and native wildlife habitat. I have authored or co-authored approximately 40 refereed (peer-reviewed) papers in those fields, specifically regarding groundwater/surfacewater interactions, karst aquifers, and flood plains/wetlands (aka special aquatic sites). My publications have been based on research I have conducted in wetlands (special aquatic sites) and other ecosystems, including marine, estuarine, and freshwater aquatic ecosystems throughout Florida. I also have served as a peer reviewer for manuscripts (related to the fields referenced above) that have been submitted to professional journals for publication. A list of my relevant peer-reviewed publications, awards and recognition of my work in the fields described above, as well as a description of my professional experience and affiliations with professional societies and other organizations, are provided in my CV (**Bacchus Exhibit A**).

**B. REQUESTS TO ACCOMMODATE EXPERTS' DISABILITY SO MEANINGFUL ANALYSIS AND DESCRIPTION OF ENVIRONMENTAL IMPACTS FROM PROPOSED LEVY NUCLEAR PLANT UNITS 1 AND 2 ("LNP") SITE CAN BE CONDUCTED AND PROVIDED**

1. **Joint Interveners' expert on environmental impacts** - In 2009, after reviewing initial documents prepared and/or submitted by Progress Energy Florida, Inc. (PEF), I was hired to serve as the Joint Interveners' expert regarding myriad large and irreversible adverse environmental impacts that would occur if the proposed Levy Nuclear Plant Units 1 and 2 ("LNP") was constructed and additional large and irreversible adverse environmental impacts if operation of the proposed LNP occurred.

2. **Physical disability of Joint Interveners' expert on environmental impacts** - Subsequently, in 2010, I incurred a significant loss of vision and increasing visual impairments constituting a disability pursuant to the Americans with Disabilities Act ("ADA") of 1990 (42 U.S.C. 12131) and ADA 28 CFR Parts 35.101, 35.104 and 35.149. As a result of my loss of vision I was being examined by and referred to doctors with various expertise in vision problems in an effort to determine the cause of and treatment, if any, for my vision problems. My visual impairment has prevented me from traveling and being able to read and review documents and prepare comprehensive comments within the original time frames provided regarding environmental impacts of the proposed LNP, including statements and allegations by PEF and staff of the Nuclear Regulatory Commission ("NRC") and related agencies that are inadequate, inaccurate, erroneous and/or lacking scientific basis.

3. **Requests for time extensions to accommodate medical appointments and visual disability** - As a result of my visual impairment, both the Joint Interveners and I requested extensions of time to accommodate my problem by providing sufficient time for me to review the required documents and prepare my response. Those requests included a time-extension request by Joint Interveners to allow me to provide comments on their behalf regarding the gross inadequacies of the Draft Environmental Impact Statement ("DEIS") for the proposed LNP. Examples of those requests are provided in **Bacchus Exhibits B1 and B2** respectively, attached and incorporated by reference. Note that final approval of the proposed LNP cannot occur without a valid Environmental Impact Statement, which should be dependant on any critical deficiencies of the DEIS being identified and addressed to comply with relevant federal laws.

4. **Requested time extensions to accommodate disability not provided** - The time extensions requested by the Joint Interveners and by me to accommodate my visual disability were not

granted. Only half or less than half of the requested time extensions were granted. See **Exhibits B3 and B4** respectively, attached and incorporated by reference.

5. **Joint Interveners have been prejudiced by failure to accommodate expert's disability** - The limited time extensions that were provided failed to accommodate my visual disability and allow adequate time for me to review and respond to myriad inadequate, inaccurate, erroneous and/or scientifically unfounded statements and documents/models regarding the alleged lack of (aka "SMALL") adverse environmental impacts from constructing and operating the proposed LNP. The failure to grant the requested time extensions has prejudiced the Joint Interveners by preventing them from providing adequate expert support for: (a) renewing Contention 4; (b) preparing new Contention 12; (c) fully discrediting the DEIS for the proposed LNP; and (d) responding to other PEF and agency documents and pleadings. Joint Interveners cannot replace me as an expert witness because there are no other Hydroecologists with site-specific expertise. Even if other experts with comparable expertise were available, the Joint Interveners would suffer further prejudice if they were forced to substitute another expert at this late date because that expert would not be familiar with all of the background documents and site information. Further, even if a comparable expert was available, Joint Interveners' limited funds would be taxed by attempting to pay another expert to become familiar with the extensive history and site conditions of and documents related to the proposed LNP.

6. **Failure to accommodate expert's disability constitutes discrimination pursuant to the ADA** - The failure to accommodate my disability, including granting the previously requested time extensions also constitutes discrimination based on my visual disability. The ADA prohibits discrimination against people with physical disabilities, including visual impairment. See ADA 28 CFR Parts 35.101, 35.104 and 35.149.

### **C. PROGRESS ENERGY FLORIDA'S ALLEGATIONS REGARDING JOINT INTERVENERS' CONTENTION 12**

1. **Statements referencing Joint Interveners' expert** - Several references were made to me in PEF's "Answer Opposing Joint Interveners' Motion for Contention 12" dated December 29, 2010. Those statements included the following:

Joint Interveners requested an extension to file contentions based on the DEIS related to hydroecology in order to accommodate medical conditions of Dr. Bacchus. The Board found good cause for a 40-day extension. Board Memorandum and Order (Granting Motion for Extension of Time) at 1 (Sept. 29, 2010) (unpublished). However, the proposed contention challenges the DEIS alternatives analysis and does not rely on hydroecology analysis by Dr. Bacchus (as discussed *infra*, the opinion of Dr. Bacchus apparently contradicts Contention 12). Accordingly, even assuming Contention 12 was based on the DEIS, which it is not, pursuant to the Joint Motion on Scheduling and the Board's clarification of the ISO, Contention 12 should have been filed by October 4, 2010. [PEF footnote 4, p. 8]

Joint Interveners' consultant, Dr. Sydney Bacchus, is not relied on to support Contention 12 apparently. See JI Motion at 2 (list of attachments in support). Rather than supporting Contention 12, Dr. Bacchus's affidavit of November 12, 2010 (Bacchus Aff.) apparently contradicts Contention 12. See generally, Bacchus Aff. at ¶D.1 (objecting to alteration of flows in surface waters), ¶D.4 (altering CFBC would adversely impact manatees), ¶D.9 (objecting to diverting flow in the OWR away from the Gulf of Mexico and associated estuarine ecosystems), ¶F.3 (reliance by manatees for access to springs feeding the CFBC), and Section G (discussing alternate energy sources, not alternate sites). [PEF footnote 9, p. 20]

The filing from Dr. Bacchus on November 15, 2010 references the OWR in only one place and that apparently contradicts Contention 12 because she is discussing an implausible potential for impact on the Gulf of Mexico and associated estuarine ecosystems from

diverting flow in the OWR that otherwise would go through the CFBC to the Gulf of Mexico. Bacchus Aff. at 10. [PEF footnote 12, p. 27]

2. **Response related to PEF's footnote 4 references to Joint Interveners' expert Hydroecologist** – In response to PEF's "footnote 4" quoted in C.1. above and referencing me and DEIS alternative, the limited time extensions provided precluded me from preparing multiple affidavits to support all of the responses and other Joint Intervener documents bound by those time constraints. Although neither Contention 4 nor Contention 12 focuses on the grossly inadequate and inaccurate PEF Environmental Report (ER) and "DEIS alternatives analysis" it is impossible to address adequately certain "LARGE" and irreversible hydroecological impacts of the proposed LNP without also addressing the failure to consider readily available alternatives that would eliminate all of the adverse hydroecological and other environmental impacts described by Joint Interveners in renewed Contention 4 and new Contention 12, addressing the state's desire to restore the Lower Withlacoochee River. Examples of those alternatives were provided in my previous affidavits and personal supplemental DEIS comment letter dated 11/27/10 (**Bacchus Exhibit C1**, incorporated herein by reference). See also **Bacchus Exhibit B1**. Time constraints prevented me from describing how unaddressed alternatives such as roof-top solar at locations where the power is needed (e.g., locations where it would be exported via proposed corridors) not only would eliminate the need for "LARGE" water withdrawals in the vicinity of the proposed LNP, but that those "LARGE" water withdrawals would irreversibly prevent the restoration of the Lower Withlacoochee River. The Southwest Florida Water Management District (SWFWMD) funded three detailed assessments, at the expense of taxpayers, relevant to restoration of the Lower Withlacoochee River, with results released in 2003, 2004 and 2008. Although previously submitted, those reports are incorporated by reference as in **Bacchus Exhibits C2, C3 and C4, respectively**. Hydrologic restoration of the Lower Withlacoochee River is a required prerequisite for restoring the ecology of the Lower Withlacoochee River. Thus both Contention 12 and the DEIS alternatives analysis rely on my hydroecological analysis, contrary to claims by PEF in footnote 4 of its response.

3. **Response related to PEF's footnote 9 references to Joint Interveners' expert Hydroecologist** – In response to PEF's "footnote 9" reference to me quoted in C.1. above and as indicated above, the limited time extensions provided were insufficient to accommodate my visual disability and to allow adequate time for me to prepare supporting affidavits for pending pleadings/responses and to provide expert input to the Joint Interveners for Contention 12. My affidavit of November 12, 2010 in no way contradicts Contention 12. Restoration of the Lower Withlacoochee River (addressed in Contention 12) merely would divert flow from the artificial, dredged CFBC channel to the adjacent, natural channel of the Lower Withlacoochee River. Conversely, the proposed LNP would withdraw and R-E-M-O-V-E significantly "LARGE" volumes of water from that stream system entirely, resulting in "LARGE" hydroecological impacts to the Lower Withlacoochee River, manatees and other federally listed species and estuarine ecosystems.

4. **Response related to PEF's footnote 12 references to Joint Interveners' expert Hydroecologist** – In response to PEF's "footnote 12" reference to me quoted in C.1. above and as indicated above, the limited time extensions provided were insufficient to accommodate my visual disability and to allow adequate time for me to prepare supporting affidavits for pending pleadings/responses and to provide expert input to the Joint Interveners for Contention 12. No "filing" by me, including the alleged filing by my on November 15, 2010 contradicts Contention 12. The adverse impacts on the Gulf of Mexico by the proposed LNP is not "an implausible potential" as alleged by PEF, but an irreversible certainty. As described in the preceding paragraph, restoration of the Lower Withlacoochee River merely would redirect flow from the CFBC channel to the natural stream channel, where it would flow naturally to the Gulf of Mexico.

5. **Additional statements referencing Joint Interveners' environmental contentions** – Additional references were made in PEF's "Answer Opposing Joint Interveners' Motion for Contention 12" dated December 29, 2010 regarding environmental impacts related to Interveners' Contentions 4 and 12. Those statements included but were not limited to the following:

Although DEIS notes that freshwater enters the CFBC from groundwater springs and from overflow contributions from Lake Rousseau via the Inglis Dam and Inglis Lock channel bypass and spillway (see, e.g., DEIS §§ 2.4.2.1 at 2-89; 5.2.3.1 at 5-9, & Figs. 5-3 & 5-4 at 5-10 – 5-11), the DEIS is abundantly clear that the salt water of the Gulf of Mexico is the (essentially unlimited) source of makeup water for normal plant operations. DEIS §§ 2.3, 5.2.2.1. Joint Petitioners' mischaracterization of the DEIS does not raise a material dispute. 10 C.F.R. § 2.309(f)(1)(vi); Crow Butte Resources, Inc. (License Renewal for In Situ Leach Facility, Crawford, Nebraska), CLI-09-09, 69 NRC 331, 363 [PEF footnote 14, p. 28]

If successful, the impoundment would maintain sufficient head to divert enough freshwater flow to maintain the impoundment free of saltwater intrusion and flush saline from the aquifer. JI Motion, Attachment 12. In contrast, in Contention 4, Joint Intervenor alleges that any diversion of flows from the Lower Withlacoochee River is a LARGE impact. Levy, LBP-09-10, 70 NRC, 51, 90-91 (2009). [PEF footnote 16, p. 31]

Progress notes an ironic inconsistency in Joint Intervenor's advocacy in having raised concerns regarding alleged dewatering and salt drift from the operation of LNP on Outstanding Florida Waters, including prominently the Withlacoochee River, in Contention 4. There is no discussion of the potential impacts to the Outstanding Florida Waters and wetlands of a proposed impoundment of 1.5 billion gallons of fresh water in a six-mile segment of the CFBC with a two foot head maintained above the current average water level and then using this freshwater, either directly or indirectly through the aquifer, for human consumption. See JI Motion Attachment 12. [PEF footnote 17, p. 32]

As discussed above, Joint Intervenor only alleges that the benefits of the impoundment arise from increasing the availability of freshwater for human consumption and do not even allege facts that the benefits also extend to other aspects of the environment. [PEF footnote 18, p. 35]

6. **Response related to PEF's footnote 14 allegations regarding the "makeup water for normal plant operations"** – In response to PEF's "footnote 14" although the DEIS may be "abundantly clear that the salt water of the Gulf of Mexico is the (essentially unlimited) source of makeup water for normal plant operations" the body of scientific evidence, the Joint Intervenor and I dispute the allegations that the initial water for "normal plant operations" will be "salt water of the Gulf of Mexico."

7. **Response related to PEF's footnote 16 allegations regarding raising the head for the Lower Withlacoochee River** – In response to PEF's "footnote 16" see paragraph C.3. above and **Bacchus Exhibits C2, C3 and C4.**

8. **Response related to PEF's footnotes 17 and 18 allegations regarding human consumption of water** – Regarding these footnotes, Joint Intervenor and I are unaware of any pending applications to withdraw water from the Lower Withlacoochee River, whether from impounded or free-flowing areas. Despite this fact, it is well established that humans, as well as wildlife and federally listed species in the immediate vicinity of the proposed LNP require fresh water for survival. Conversely, readily available alternatives to the proposed LNP, such as conservation and rooftop solar would require no extraction of water from the vicinity of the proposed LNP. See the discussion in paragraph C.2. regarding the need to consider waterless energy alternatives regarding the fact that constructing and operating the proposed LNP would permanently and irreversibly prevent restoration of the Lower Withlacoochee River and future potable water use in that vicinity. See also **Bacchus Exhibits C2, C3 and C4.**

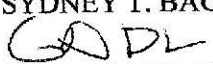
#### **D. LIST OF EXHIBITS AND DECLARATION**

1. **List of Exhibits** – A list of exhibits referenced and incorporated into my affidavit is provided in **Bacchus Exhibit D.**

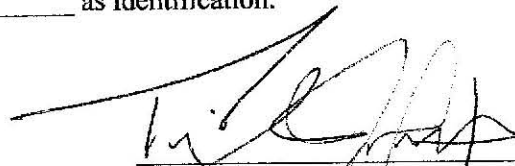
2. **Declaration** – I declare under penalty of perjury that the factual statements above are true and correct, to the best of my knowledge, and the expressions of opinion stated above are based on my best professional judgment.



Executed in Accordance with 10 CFR § 2.304(d)  
Sydney T. Bacchus, Ph. D.  
Hydroecologist  
Applied Environmental Services, LLC  
P.O. Box 174  
Athens, GA 30603  
appliedenvirserve@gmail.com

SWORN TO AND SUBSCRIBED before me this 4 day of January 2011, by the affiant,  
SYDNEY T. BACCHUS, who is personally known to me or who has produced  
 as identification.





NOTARY PUBLIC, State of Georgia  
My commission expires: 5/18/14  
Commission No.:



### **List of Bacchus Exhibits**

- A. Bacchus, Ph. D., Curriculum Vitae
- B. Requests for accommodation of visual impairment
  - 1. Joint Interveners' Motion for Extension of Time dated 9/27/10 to accommodate Bacchus impairment
  - 2. Bacchus letter dated 10/26/10 to Corps and NRC staff including comments on LNP DEIS
  - 3. Order dated 9/29/10 Granting Only 40-Day Time Extension
  - 4. NRC Response Letter dated 11/10/10 Granting Only 30-Day Time Extension
- C. Documents previously submitted to NRC relevant to PEF's allegations regarding Joint Interveners' new Contention 12 and Joint Interveners' renewal of Contention 4
  - 1. Bacchus letter dated 11/27/10 to Corps and NRC staff re: supplemental comments on LNP DEIS
  - 2. West Terminus – Cross-Florida Greenway Assessment Work Order 1 Final Report: Lower Withlacoochee River Restoration Alternatives Feasibility Study prepared for SWFWMD by URS 12/31/03
  - 3. West Terminus – Cross-Florida Greenway Assessment Work Order 2 Final Report: Lower Withlacoochee River Restoration Alternatives Feasibility Study prepared for SWFWMD by URS 8/12/04
  - 4. Cross Florida Greenway: Watershed Evaluation - Evaluation of Alternative Flow Scenarios Using Hydrodynamic Models prepared for SWFWMD by Janicki Environmental, Inc. 3/17//08
- D. List of Exhibits

NOTE: The Exhibits have been served on CD disk by US postal service as of 5:00 pm on January 5, 2011 to: The ASLB Panel, The Applicant, The Office of General Counsel, and the Secretary's Office (Hearing Docket).

All others who receive this filing by the EIE, may either access the exhibits when they become available in the COL Dockets or ADAMS or may request a disk to be mailed. Contact Mary Olson ([mary@nirs.org](mailto:mary@nirs.org)) 828-252-8409.

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

Before Administrative Judges:  
Alex S. Karlin, Chairman  
Dr. Anthony J. Baratta  
Dr. William M. Murphy

In the Matter of

PROGRESS ENERGY FLORIDA, INC.

(Combined License Application for Levy County  
Nuclear Power Plant, Units 1 and 2)

Docket No. 52-029-COL, 52-030-COL

ASLBP No. 09-879-04-COL-BD01

January 5, 2011

Certificate of Service

I hereby certify that copies of the Intervener's Reply to Applicants Answer to C-12 have been served on the following persons by Electronic Information Exchange on this 5<sup>th</sup> January 2011:

Administrative Judge Alex S. Karlin, Chair Atomic Safety and Licensing Board Panel Mail Stop: T-3F23 U.S. Nuclear Regulatory Commission Washington, DC 20555-0001 E-mail: <a href="mailto:Alex.Karlin@nrc.gov">Alex.Karlin@nrc.gov</a>	Office of Commission Appellate Adjudication Mail Stop O-16C1 U.S. Nuclear Regulatory Commission Washington, DC 20555-0001 E-mail: <a href="mailto:OCAEmail@nrc.gov">OCAEmail@nrc.gov</a>
Administrative Judge Anthony J. Baratta Atomic Safety and Licensing Board Panel Mail Stop: T-3F23 U.S. Nuclear Regulatory Commission Washington, DC 20555-0001 E-mail: <a href="mailto:Anthony.Baratta@nrc.gov">Anthony.Baratta@nrc.gov</a>	Office of the Secretary ATTN: Docketing and Service Mail Stop: O-16C1 U.S. Nuclear Regulatory Commission Washington, DC 20555-0001 E-mail: <a href="mailto:HEARINGDOCKET@nrc.gov">HEARINGDOCKET@nrc.gov</a>
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**NOTE:** due to the size of some of the documents, exhibits associated with Attachment 1, Affidavit of Dr. Sydney Bacchus dated January 4, 2011 have been mailed on CD to the Board, the applicant, the counsel for NRC Staff and the Secretary's office. These documents will become available through the docket and NRC's ADAMS documents. If any individual on this Certificate of Service, or the EIE distribution system requests, they may also receive a CD in the mail. Contact Mary Olson.

**/Signed (electronically) by/**

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