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## Salt Drift and Levy 1 and 2

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OFFICE OF SECRETARY RULEMAKINGS AND ADJUDICATIONS STAFF

Fraud - deceit, trickery, breach of confidence perpetrated for profit or to gain some unfair or dishonest advantage

Progress Energy claims that the environmental impact of salt drift from Levy 1 and 2 will be small citing as their evidence, the environmental impact of salt drift at the Crystal River Plant.

When the two Levy reactors are online, each day mist containing 31 pounds of salt in about 4,000 gallons of water will drift over adjacent conservation lands and the freshwater wetland area proposed for the location of Levy 1 and 2. This is an area where our drinking water source, the Floridan Aquifer is accessible at ground level or within inches of the surface of the ground.

My attempt to find a comparable nuclear site in the U.S. failed. All nuclear plants using salt water were located next to natural salt water sources. It appears that the freshwater wetland location of Levy 1 and 2, with its proposed use of salt water pumped from the defunct cross barge canal is unique. Appropriate scientific investigation to the impact of 680,000 pounds of salt sprinkled down into an environment where it does not belong should be required of Progress Energy.

In Governor Scott's state of the state address earlier this week, he mentioned seeking to eliminate fraud and stated "it is the consumers in our state that we must protect." I suggest that Progress Energy is committing fraud by stating that the environmental impact of salt drift will be small with no more evidence to back up this statement than citing the impact of salt drift at the Crystal River Plant which is located adjacent to the Gulf of Mexico.

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DOAH Case # 08-2727EPP Public Testimony by Beth Foley, 9231 NW 75<sup>th</sup> Avenue, Chiefland, FL 32626 mailing address: PO Box 1177, Chiefland, FL 32644 26 February 2009, Inglis Community Center

## Judge J. L. Johnston

My name is Beth Foley. I am retired. I have taught from the elementary to the university level, worked as an educational consultant and have co-authored a textbook series.

Today I would like to specifically address the issue of cooling tower salt drift with regard to Progress Energy's documented position.

"Drift is created when small amounts of cooling water become entrained in the air stream and are carried out of the tower. Particulate matter (PM) is emitted as salt, and solids in the water droplets escape as drift from the tower. Drift eliminators will be used to minimize PM emissions caused by the cooling tower drift." Levy Nuclear Power Plant Units 1 & 2. Progress Energy Florida Proposed CONDITIONS OF CERTIFICATION (Second Amended Conditions of Certification 2-20-09, Appendix C, Page 2 of 5)

These "small amounts of cooling water" and "water droplets" sound harmless enough until some calculations are made. It turns out that the small amount of salt water drifting each day from the cooling towers is 3, 824 gallons and it will contain 31 pounds of salt. Over one year's time this amounts to 1.4 million gallons of water containing 5.6 tons of salt. Progress Energy labels this environmental impact as small, citing studies made at the Crystal River Electrical Complex.

In a letter (previously labeled *PEF EX. 28*) from Progress Energy Lead Environmental Specialist, Jamie Hunter to Withlacoochee Regional Planning Council Principal Planner, David Connolly,

**Mr. Hunter states on page 9 that** "With regard to the potential impact of residual particles that will be emitted from the facility, the majority of the particulate emissions will be emitted from the cooling towers as common salt particles contained in cooling tower "drift" droplets. Dispersion modeling studies performed by PEF and described in the LNP SCA demonstrated that impacts attributable to particulate matter emissions and salt deposition would be minimal and below any vegetative impact thresholds. It is also noted that a comprehensive salt drift deposition study was conducted at the nearby CREC to evaluate the physical impacts of salt deposition on vegetation surrounding the CREC from that facility's natural and mechanical draft cooling towers...The results of the study demonstrated that there were no significant impacts to vegetation in the area surrounding the plant resulting from cooling tower operations."

This comparison of salt drift at the Crystal River Energy Complex with the proposed Levy County site is like comparing apples to oranges. Crystal River is situated on the Gulf of Mexico and LNP1/LNP2 would be situated ten miles inland. Anyone who has spent time in Florida near one of the coasts knows that only certain vegetation is compatible with coastal salt spray.

Progress Energy's numbers are used to calculate, over the 60 year expected life of the facility, the resulting salt drift. The results predict 336 tons of salt contained in 56 million gallons of water will drift away despite the very high efficiency mist eliminators within the cooling towers. Depending on the strength and direction of the wind on a particular day, this salt drift will settle over the nearby wetlands, Lake Rousseau, the Withlacoochee River and nearby homes and businesses. (See attached maps from *Levy County Property Appraiser 9<sup>th</sup> Edition –* 2004.)

Over the expected life of the Levy facility this drift would result in 672,000 pounds of salt ending up where it should not be. As stated previously, Progress Energy declares the salt drift impact to be small.

Enclosed are two wind roses showing wind direction, strength and frequency over the same five year period for Tampa and Gainesville. These visuals suggest that winds at the PE Levy site will come from varying directions and with varying strength. Nothing near the cooling towers can be expected to escape the salt drift. (Enclosed copies of *Wind Roses for Gainesville: LNP\_ER\_FIG02\_07\_17.PDF* and for *Tampa: LNP\_ER\_FIG02\_07\_16.PDF*)

Looking at new U.S. nuclear power plants with current applications, <u>http://www.nrc.gov/reactors/new-reactors/col/new-reactor-map.html</u>, it appears that the Levy County proposed facility is unique in its inland, wetlands location along with the planned utilization of salt water for the cooling towers. Nuclear power plants utilizing salt water for cooling towers are commonly located very close to large bodies of salt water and salt drift does not present a problem. More and more facilities are located far from large salt water bodies and utilizing rivers, lakes, dry cooling technology, hybrid types or cooling with treated waste water. There are many different models but using salt water 10 miles inland is not one of them. Progress Energy's utilization of its first alternative site, CREC, for its two new nuclear power plants looks far more reasonable than moving forward with the current site with its great potential for environmental havoc. (Levy Nuclear Plant Units 1 and 2 COL Application Part 3, Environmental Report Rev. 0 10-I Chapter 10 Environmental Consequences of the Proposed Action, pages 86-101)

The Electrical Power Plant and Line Siting of the Florida Statues states the legislative intent "to effect a reasonable balance between the need for the facility and the environmental impact resulting from construction and operation of the facility" s. 403.502 (2). Contrary to this legislative intent, the construction at the proposed Levy County site would tip the balance in complete favor of the Applicant.

Examining the current and projected economy, there is a question of current and near future *need* (s. 403.503(3)) which had been projected prior to the current economic outlook. The need for *nuclear* energy, at a great immediate public

expense (government subsidized building and securing) and far into the future public expense (thousands of years storage of nuclear waste) rather than using public funds to support *solar energy* in sun rich Florida is extremely controversial.

The applicant's stated environmental impact resulting from construction and operation of the facility as applied in singularly specific terms will result in a substantially greater impact if taken in cumulative terms and is thus understated. This larger cumulate impact must include the thwarting of proposed solutions to current, FDEP and SWFWMD recognized environmental problems relating to the Withlacoochee River. The location of the cooling towers' intake would create an economic barrier to feasible solutions.

Levy County does not need the electricity from a nuclear power plant and certainly does not need the negative environmental impact. The immediate *glamour* associated with being *put on the map* due to such a facility will assuredly be short lived. However, the environmental impact of the sudden and continuing massive withdrawal of fresh water from the Floridan Aquifer, sixty years of inland salt drift from cooling towers, and another nuclear waste storage facility nearby will be lasting.