

Attachment B  
Declaration of Dr Marvin Resnikoff 09-15-2010  
And Resume

**UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION**

**BEFORE THE ATOMIC SAFETY AND LICENSING BOARD**

|   |   |                                      |
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|   | ) |                                      |
| <b>In the Matter of</b>                                   | ) |                                      |
|   | ) |                                      |
| <b>Progress Energy Florida</b>                            | ) | <b>Docket Nos. 52-029 and 52-030</b> |
|   | ) |                                      |
| <b>(COL Application for Levy County, Units 1 &amp; 2)</b> | ) |                                      |
|   | ) | <b>September 15, 2010</b>            |

**DECLARATION OF MARVIN RESNIKOFF, Ph.D.  
IN SUPPORT OF INTERVENORS' CONTENTION 8**

Under penalty of perjury, Marvin Resnikoff does hereby state as follows:

**Statement of Qualifications**

1. My name is Marvin Resnikoff. I am the Senior Associate at Radioactive Waste Management Associates (RWMA). My business address is 18 The Square, Suite 26, Bellows Falls, Vermont 05101. RWMA works on behalf of public interest groups and State and local governments, and also serve as expert witnesses in personal injury cases involving radiation. I have over 35 years in the technical issues related to low-level radioactive waste storage and disposal. I have authored or co-authored four books on radioactive waste issues and have appeared as an expert witness in licensing cases involving proposed low-level waste facilities in North Carolina, California, Nebraska, Texas and Illinois. I have also served as an EPA technical advisor to a public interest group overseeing the remediation of the Maxey Flats, Kentucky landfill. I am also a member of the Health Physics Society.

**Purpose of Declaration**

2. The purpose of this declaration is to provide technical support for joint intervenors contention 8 by outlining the details that are required in a plan that protects the health and safety of the public and workers for storing low-level waste for time periods greater than two years at the proposed PEF Levy County 1 & 2 nuclear site. I agree with many of the points made by Diane D'Arrigo in her declaration and will not repeat these points here.

**Operational Status of LLRW Disposal Sites**

3. As Ms. D'Arrigo has enumerated, only the US Ecology facility in Richland, Washington and the EnergySolutions facility in Barnwell, South Carolina can accept class A, B and C LLRW, and only from the Northwest, Rocky Mountain and Atlantic compacts. Waste Control Specialists (WCS) has a license to store a limited amount of waste from the Texas-Vermont compact. This may change by votes of the Compact Commission, but several lawsuits are pending that may affect the outcome.
4. Another uncertainty is whether the Vermont Yankee reactor is allowed to operate past the year 2012. Decommissioning would yield a large volume of class B and C waste to the WCS facility. The Vermont Legislature has a unique role to play. At the last session, the State Senate has denied Vermont Yankee permission to operate past 2012. The entire matter will be pushed into the gubernatorial election, where the leader of the State Senate is running for Governor.
5. It is also important to point out that the Vermont Yankee reactor has had several years of leakage of H-3, Sr-90 and Cs-137 radionuclides into the from underground pipes into the surrounding soil. This contaminated soil, likely LLRW, Class A, will also have to be exhumed and disposed at an LLRW facility. As part of written agreements, the State will require that the site be restored to Greenfield status.

### **Onsite Storage and Processing**

6. Ms. D'Arrigo states in para. 20 of her declaration that "The applicant must provide greater detail about the waste, its condition, the processes it will undergo, how it will be stored and where, considering the likelihood that extended onsite waste storage will be necessary. Will storage be in buildings and if so what will the structures be? If outside, exposed to the elements, how will safety and security be assured? Where will the storage area or buildings be located? Will they be within the protected area? What treatment options will be carried out onsite and where?" I agree with these valid concerns and provide more detail below.
7. PEF discusses in Revision 16, section 11.4 of the DCD, how it will handle solid waste management. "The solid waste management system is designed to collect and accumulate spent ion exchange resins and deep bed filtration media, spent fuel cartridges, dry active wastes and mixed wastes generated as a result of normal plant operation, including operational occurrences." As discussed by the applicant, the total volume of radwaste to be stored in the radwaste building is 1417 cubic feet at the expected rate, and 2544 cubic feet at the maximum rate. (11.4-5, DCD) Since the useful storage volume in the packaged waste storage area is approximately 3900 cubic feet (11.4-6), the applicant is admitting that it has space for up to two years storage. The DCD further states that "all ion exchange resin beds are disposed and replaced every refueling cycle." (11.4-5, DCD).

Similarly, the activated carbon guard bed and all wet filters are replaced every refueling cycle. (11.4-5, DCD) The applicant admits that it has no provisions for permanent storage of radwaste. (11.4-4, DCD)

8. In this declaration, I will focus on the spent resins and wet filters, since the dose rates can exceed 15 R/hr on contact. (11.4-9, DCD). That is, worker exposures can exceed the quarterly limit in the matter of minutes. These materials may also contaminate the environment outside of the protected area. At other facilities, in particular, the now decommissioned Connecticut Yankee facility, processing of these materials led to high concentrations of radionuclides in the underlying aquifer, up to 150 pCi/L of Sr-90. I was an expert witness for the public interest group CAN before the NRC in decommissioning hearings regarding CT Yankee.
9. According to the applicant, handling of such materials, when unshielded, may be done with reach rod tools. That is, if shielding is not available, workers are kept further away from the radiation source. This is possible if space is available.
10. To handle the spent resins, the applicant has two spent resin storage tanks and one high integrity container “at the west end of the rail car bay of the auxiliary building that “provide more than a year of spent resin storage at the expected rate.” The spent resin handling operations are discussed in section 11.4.2.3.1, DCD.
11. Resins and filter media with contact dose rates greater than 15 R/hr are shielded. Thus, reading between the lines of the DCD (because there is no discussion for how several years worth of materials with high contact dose rates will otherwise be managed), I assume that such materials will be placed in shielded containers somewhere, inside or outside, and indefinitely, until they can be disposed of. Safety and security for these materials are assured by the DCD for immediate disposal, but there is no discussion for indefinite storage. There is no discussion for the processing of these materials for indefinite storage in terms of containers, buildings, locations. From the DCD, it is not clear to me how NRC staff can conclude that workers and the public are protected.
12. If this issue moves towards a hearing before the Atomic Safety And Licensing Board, I will discuss this issue and issues concerning other radioactive waste forms, to show that the DCD does not provide assurance that the health and safety of workers and the general public will be protected.
13. I agree with Ms. D’Arrigo that there is no offsite disposal for PEF available at present and that PEF must therefore plan for indefinite storage. The DCD does not describe how this will be done and cannot be relied upon by NRC staff for that purpose.

14. If indefinite storage results in an accumulation of radioactive waste on the Levy site beyond the capacity projected in the DCD, inclusion of consideration of this source term in many accident / non-normal operating scenarios will be important.

I declare that the foregoing facts are true and correct to the best of my knowledge and that the statements of opinion are based on my best professional judgment.

\_\_\_\_\_/s/\_\_\_\_\_  
Marvin Resnikoff

September 15, 2010