



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

August 27, 2013

Mr. Terry D. Hobbs, Decommissioning Director
Crystal River Nuclear Plant (NA1B)
15760 W. Power Line Street
Crystal River, Florida 34428-6708

SUBJECT: CRYSTAL RIVER UNIT 3 NUCLEAR GENERATING PLANT - RESCISSION OF ORDER EA-12-049, "ORDER MODIFYING LICENSES WITH REGARD TO REQUIREMENTS FOR MITIGATION STRATEGIES FOR BEYOND DESIGN BASIS EXTERNAL EVENTS"

Dear Mr. Hobbs:

By letter dated March 12, 2012 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML12054A735), the U.S. Nuclear Regulatory Commission (NRC) issued Order EA-12-049 to Florida Power Corporation (FPC or the licensee), requiring certain actions at Crystal River Unit 3 Nuclear Generating Plant (CR-3) associated with the Fukushima Near-Term Task Force Recommendations. Order EA-12-049 directed licensees to develop and implement strategies to maintain or restore core cooling, containment cooling, and spent fuel pool (SFP) cooling capabilities during beyond-design-basis external events.

Section IV of Order EA-12-049 required that FPC submit an overall integrated plan (OIP) by February 28, 2013, describing how FPC planned to achieve compliance with the requirements of the Order. Section IV of the Order also provided the NRC's Director of the Office of Nuclear Reactor Regulation the authority to relax or rescind any or all of the conditions of the Order upon demonstration by the licensee of good cause.

On February 20, 2013 (ADAMS Accession No. ML13056A005), FPC submitted a letter certifying the permanent cessation of operation of CR-3 and permanent removal of the fuel from the reactor vessel, in accordance with Title 10 of the *Code of Federal Regulations*, Part 50, Section 50.82(a)(1)(i) and (ii).

In a separate letter dated February 20, 2013 (ADAMS Accession No. ML13056A004), FPC requested, in part, a relaxation of the schedule to submit the OIP related to NRC Order EA-12-049 for CR-3, in order to complete a review and assessment of Order EA-12-049 and the associated OIP for its continued applicability and to ensure its completeness. FPC proposed to submit the OIP for CR-3 by August 28, 2013. The NRC staff reviewed the licensee's request, and, upon a finding of good cause, on February 26, 2013 (ADAMS Accession No. ML13052A670), relaxed the schedule requirements of Order EA-12-049, related to the submission of the OIP, until August 28, 2013.

On May 13, 2013 (ADAMS Accession No. ML13144A080), the licensee requested rescission of Order EA-12-049 for CR-3, based on the decommissioning status of the plant. In this letter, the licensee provided the following information to demonstrate good cause for the rescission of Order EA-12-049 requirements regarding core and containment cooling:

- There is no fuel in the core to cool. Thus, core cooling is unnecessary.
- The reactor coolant system is no longer pressurized or generally subject to forced flow so there is limited motive force to cause leakage.
- The primary challenge to the containment would come from mass energy losses from the primary and secondary systems to the containment during power operations. With the plant shutdown, these systems will not appreciably add energy to the containment.

The NRC staff concludes that the lack of fuel in the core and the absence of challenges to the containment render the development of guidance and strategies to maintain or restore core cooling and containment capabilities unnecessary.

By letter dated June 28, 2013 (ADAMS Accession No. ML13175A215), the NRC staff requested additional information on the equipment and procedures to provide for spent fuel cooling and inventory makeup, the protection afforded the equipment, the period of time to address challenges to SFP cooling capabilities, and the existence of permanent connection points for makeup flow to the SFP to provide the equivalent capabilities as those that would be required by Order EA-12-049. On July 17, 2013 (ADAMS Accession No. ML13204A384), the licensee responded to this request for additional information (RAI).

In this RAI response, the licensee stated that, based on the current decay heat levels and the 380,000 gallon volume of water contained in the SFP, the heat up rate for a loss of forced cooling would be approximately 1.04 °F per hour. This heat up rate results in an 107 hour time-to-boil, and more than 19 days for the water inventory to be reduced to a point 10 feet above the top of the fuel racks. The NRC staff concludes that, given the low decay heat levels and slow heat up rate, the reliance on the SFP inventory for passive cooling provides an equivalent level of protection as that which would be provided by the initial phase of the guidance and strategies for maintaining or restoring SFP cooling capabilities that would be necessary for compliance with Order EA-12-049 using installed equipment. The NRC staff further concludes that the long time to boil off the SFP inventory to a point at which makeup would be necessary for radiation shielding purposes obviates the need for the transition phase of the guidance and strategies that would be necessary for compliance with Order EA-12-049 using on-site portable equipment. The staff also concludes that the low decay heat and long boil-off period provides sufficient time for the licensee to obtain off-site resources on an ad hoc basis to sustain the SFP cooling function indefinitely, obviating the need for the final phase of the guidance and strategies that would be necessary for compliance with Order EA-12-049.

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Therefore, for the reasons discussed above, the NRC staff concludes that good cause has been demonstrated to rescind the requirements of Order EA-12-049. All other regulatory requirements for which rescission was not specifically requested remain applicable and are not impacted by rescission of this Order. Accordingly, based upon the authority granted to the Director, Office of Nuclear Reactor Regulation, Order EA-12-049 is rescinded in its entirety for CR-3.

Sincerely,

A handwritten signature in black ink, appearing to read "E. J. Leeds". The signature is fluid and cursive, with a large initial "E" and "L".

Eric J. Leeds, Director
Office of Nuclear Reactor Regulation

Docket No. 50-302

cc: Listserv

T. Hobbs

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Therefore, for the reasons discussed above, the NRC staff concludes that good cause has been demonstrated to rescind the requirements of Order EA-12-049. All other regulatory requirements for which rescission was not specifically requested remain applicable and are not impacted by rescission of this Order. Accordingly, based upon the authority granted to the Director, Office of Nuclear Reactor Regulation, Order EA-12-049 is rescinded in its entirety for CR-3.

Sincerely,

/RA/

Eric J. Leeds, Director
Office of Nuclear Reactor Regulation

Docket No. 50-302

cc: Listserv

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ADAMS Accession No. ML13212A366

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