



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

January 22, 2014

Mr. Terry Hobbs, Decommissioning Director  
Crystal River Nuclear Plant (NA2C)  
ATTN: Supervisor, Licensing & Regulatory Programs  
15760 W. Power Line Street  
Crystal River, Florida 34428-6708

SUBJECT: CRYSTAL RIVER UNIT 3 – NRC RESPONSE TO DUKE ENERGY'S FINAL  
RESPONSE TO THE MARCH 2012 REQUEST FOR INFORMATION LETTER

Dear Mr. Hobbs:

By letter dated March 12, 2012,<sup>1</sup> the U.S. Nuclear Regulatory Commission (NRC) issued a request for information per Title 10 to the *Code of Federal Regulations* (10 CFR), Subpart 50.54(f) (50.54(f) letter), to all nuclear power reactor licensees and construction permit holders in response to lessons-learned from Japan's March 2011, earthquake and subsequent tsunami. Enclosures 1 through 4 to the 50.54(f) letter include information requests regarding Recommendations 2.1 and 2.3 for seismic and flooding hazard actions, and Enclosure 5 includes Recommendation 9.3 for emergency preparedness, as part of the response to the *Near-Term Task Force [NTTF] Recommendations for Enhancing Reactor Safety in the 21<sup>st</sup> Century* report, issued July 12, 2011.<sup>2</sup> The 50.54(f) letter requests licensees to perform seismic and flooding walkdowns and hazard re-evaluations, and perform emergency preparedness communication and staffing evaluations for prolonged loss of power events.

By letter dated February 20, 2013,<sup>3</sup> Duke Energy submitted a letter certifying permanent cessation of power operations and permanent removal of fuel from the reactor per 10 CFR Subparts 50.82(a)(1)(i) and 50.82(a)(1)(ii) for the Crystal River Unit 3 Nuclear Generating Plant (CR-3). CR-3 has been shut down since September 26, 2009, for a refueling outage and has not been restarted. Duke Energy acknowledged in the February letter that once the certifications are docketed, the CR-3 license no longer authorizes operation of the reactor at CR-3, or placement or retention of fuel in the reactor vessel.

Subsequently, by letter dated September 25, 2013,<sup>4</sup> Duke Energy stated that CR-3 is no longer an operating plant, but is a permanently shut down and defueled reactor. As a result, the licensee considers the requests of the 50.54(f) letter to no longer be applicable to CR-3 and no longer plans on proceeding with further implementation of the requests in the 50.54(f) letter or any alternative approach for Recommendations 2.1, 2.3, and 9.3.

<sup>1</sup> The 10 CFR 50.54(f) letter is available via the Agencywide Documents Access and Management System (ADAMS), Accession No. ML12053A340.

<sup>2</sup> The NTTF report is available in ADAMS, Accession No. ML111861807.

<sup>3</sup> The February letter is available in ADAMS, Accession No. ML13056A005.

<sup>4</sup> The September letter is available in ADAMS, Accession No. ML13274A341.

T. Hobbs

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The NRC staff has verified that the CR-3 certifications are docketed, therefore, the CR-3 license no longer authorizes operation of the reactor or placement or retention of fuel in the reactor vessel. Further, the NRC staff has reviewed the licensee's responses to the information requests described in Enclosures 1 through 5 of the 50.54(f) letter and have determined that the requests are no longer necessary for CR-3.

No further responses or actions associated with the 50.54(f) letter are necessary since the licensee is no longer authorized to load fuel into the vessel and potential fuel-related accident scenarios are limited to the spent fuel pool. Unlike the reactor, the safety of fuel located in the spent fuel pool is assured for an extended period through maintenance of pool structural integrity, which preserves coolant inventory and maintains margin to prevent criticality. Small changes in the flooding hazard elevation would not threaten the structural integrity of a flooded pool. Further, previous evaluations of spent fuel pool structures have determined that seismic margins are very large. As seismic and flooding studies continue for the remainder of the operating fleet, new information concerning the adequacy of design bases of spent fuel pools will be evaluated for applicability to decommissioned sites using existing NRC processes.

Based on the discussion above, the safety of the fuel stored in spent fuel pools would not be substantially affected by potential changes in the flooding or seismic hazard levels. Furthermore, for beyond design basis external events challenging the safety of the spent fuel, recovery and mitigation actions could be completed over a long period of time due to the slow progression of any accident as a result of the very low decay heat levels present in the pool within a few months following permanent shutdown of the reactor. Thus, spent fuel pool beyond design basis accident scenarios at decommissioning reactor sites do not require the enhanced communication and staffing that may be necessary for the reactor-centered events the 50.54(f) letter addresses.

Should you have any questions regarding this letter, please contact Mr. Nicholas DiFrancesco at 301-415-1115 or [Nicholas.DiFrancesco@NRC.gov](mailto:Nicholas.DiFrancesco@NRC.gov).

Sincerely,



Michele G. Evans, Director  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-302

cc: Distribution via Listserv

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Should you have any questions regarding this letter, please contact Mr. Nicholas DiFrancesco at 301-415-1115 or [Nicholas.DiFrancesco@NRC.gov](mailto:Nicholas.DiFrancesco@NRC.gov).

Sincerely,  
**/RA/**  
 Michele G. Evans, Director  
 Division of Operating Reactor Licensing  
 Office of Nuclear Reactor Regulation

Docket No. 50-302

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