

## PMLevyCOLPEm Resource

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**From:** Habib, Donald  
**Sent:** Tuesday, April 22, 2014 8:04 AM  
**To:** Kitchen, Robert (Robert.Kitchen@duke-energy.com); Waters, David (David.Waters2@duke-energy.com); larry.taylor@duke-energy.com; Wilkins, Tillie (tillie.wilkins@pgnmail.com)  
**Cc:** PMLevyCOLPEm Resource  
**Subject:** Draft RAI 7484 for Levy COL Related to Condensate Return Design Change  
**Attachments:** RAI\_7484 Draft.docx

To All,

Attached is draft RAI 7484 related to the Condensate Return Design Change for the Levy Nuclear Plant Units 1 and 2 Combined License Application.

Please contact me before noon on Friday, April 25, 2014, if you would like to schedule a conference call to discuss this RAI. If no request for a conference call is received, the RAI will be issued as final.

Thank you,

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**Subject:** Draft RAI 7484 for Levy COL Related to Condensate Return Design Change  
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**Received Date:** 4/22/2014 8:03:42 AM  
**From:** Habib, Donald

**Created By:** Donald.Habib@nrc.gov

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Tracking Status: None

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**Options**

**Priority:** Standard

**Return Notification:** No

**Reply Requested:** No

**Sensitivity:** Normal

**Expiration Date:**

**Recipients Received:**

## Request for Additional Information

Issue Date:

Application Title: Levy County, Units 1 and 2 - Dockets 52-029 and 52-030

Operating Company: Duke Energy Florida

Docket No. 52-029 and 52-030

Review Section: 06.03 - Emergency Core Cooling System

Application Section:

### QUESTIONS

06.03-XX

10 CFR Part 50, Appendix A, General Design Criteria 34 requires a system be provided with the safety function to transfer decay heat from the reactor core. In the AP1000 DCD, the passive residual heat removal heat exchanger (PRHR HX) is credited with performing this function in Chapters 6, 15, and 19.

In DCD Section 6.3.1.1, it is stated that for postulated non-LOCA events, "The passive residual heat removal heat exchanger, in conjunction with the passive containment cooling system, is designed to remove decay heat for an indefinite time in a closed-loop mode of operation." The current submittal has raised questions about connotations associated with "indefinite operation" of the PRHR HX in this context.

DCD Section 6.3.4 states that "the passive core cooling system can maintain safe shutdown conditions for 72 hours after an event without operator action and without both nonsafety-related onsite and offsite power." Pursuant to staff guidance in Section 4.3.3.5 of the Utility Requirements Document and consistent with Regulatory Treatment of Non-Safety Systems (RTNSS) as discussed in the Section 19.3 of the Standard Review Plan, in order for the PRHR HX to meet the requirements of GDC 34, the system should have sufficient capacity to permit a minimum of 72 hours of operation without operator action following an accident. A preliminary analysis of the calculations available for staff audit indicate the system, with the proposed changes, appears to be capable of performing its safety function for substantially longer than 72 hours.

Staff seeks to clarify the intent of the phrase "indefinite operation" in the context of the proposed design change. Please provide, in an RAI response, a more detailed explanation on the intent and meaning of "indefinite operation" as it applies to the non-LOCA events.