

PMLevyCOLPEm Resource

From: Habib, Donald
Sent: Saturday, August 22, 2015 11:17 AM
To: Kitchen, Robert (Robert.Kitchen@duke-energy.com)
Subject: Additional MCR Heat-up Questions

Bob –

Please see below, I have included additional staff discussion topics for Duke/Westinghouse for the next public teleconference.

Thanks

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From: Habib, Donald
Sent: Tuesday, August 18, 2015 10:57 AM
To: Kitchen, Robert (Robert.Kitchen@duke-energy.com) <Robert.Kitchen@duke-energy.com>
Cc: Segala, John <John.Segala@nrc.gov>; Pieringer, Paul <Paul.Pieringer@nrc.gov>; Junge, Michael <Michael.Junge@nrc.gov>
Subject: MCR Heat-up Question

Bob –

Below is a table showing what the staff understands is in the departure and the DCD, but there are some gaps in the information. The staff would like you to fill in the missing information and correct/clarify any incorrect information. We would like to discuss in a future public teleconference, as appropriate.

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Time (days)	Certified Design		Levy Departure			
	Acceptance Criteria ¹	MCR Heat-up Analysis	Acceptance Criteria ¹		MCR Heat-up Analysis	
			MCRE	Adjacent Rooms	MCRE	Adjacent Rooms
0	75°F (60%RH)	Assume at 75°F	75°F (60%RH)	85°F (?%RH)	Assume at 75°F	Assume at 85°F
0 - 3	95°F	85.8°F (?%RH)	95°F (60%RH)	95°F (60%RH)	< 95°F (?%RH) ²	< 95°F (?%RH) ³

	(60%RH)					
4 - 7	95°F (70%RH)	4.5°F above average outdoor air temp (?%RH)	115°F (35%RH)	115°F (35%RH)	108.5°F (?%RH) (7.5°F above the maximum normal air temp site parameter of 101°F)	< 115°F (?%RH) ³

¹ It was not clear from reading Duke's submittals whether or not the acceptance criteria is the same for both human performance and equipment qualification.

² It was not clear from reading Duke's submittals what was the worst case calculated temperature and RH in the MCRE from the GOTHIC analysis. Duke's submittal implies it was below 95°F and the February 2015 meeting slides shows a temperature curve below 95°F, but no specific temperature and RH values were provided in Duke's submittal or proposed markups.

³ It was not clear from reading Duke's submittals what was the worst case calculated temperature and RH in all of the adjacent rooms from the GOTHIC analysis. Duke's submittal implies it was below 95°F for the first 3 days and below 115°F at 7 days, but no specific temperature and RH values were provided in Duke's submittal or proposed markups.

Additional Questions:

1. What is the "average outdoor air temperature" used in the certified design MCR heat-up analysis (post 72 hours)?
2. What is the basis for the change from "average outdoor air temperature" to "Maximum normal air temperature?"
3. Confirm the computer(s) supplying the safety related VDUs remain operable. (Specifically, are the rooms they are located in cooled by safety related cooling system?)
4. Identify the location (rooms) of safety-related I&C equipment located in rooms outside the MCR
5. Provide the analysis results of the temperature for first 7 days in non-MCR rooms containing equipment having 115F EQ temperature limit

Hearing Identifier: Levy_County_COL_Public
Email Number: 1294

Mail Envelope Properties (5e7c998a99e848bc9d6dab7c3b67ad86)

Subject: Additional MCR Heat-up Questions
Sent Date: 8/22/2015 11:17:18 AM
Received Date: 8/22/2015 11:17:19 AM
From: Habib, Donald

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Tracking Status: None

Post Office: HQPWMSMRS06.nrc.gov

Files	Size	Date & Time
MESSAGE	3448	8/22/2015 11:17:19 AM

Options
Priority: Standard
Return Notification: No
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Sensitivity: Normal
Expiration Date:
Recipients Received: