PMSummerColpEM Resource

From: Sebrosky, Joseph
Sent: Friday, June 25, 2010 12:12 PM
To: 'amonroe@scana.com'; 'jmgiles@scana.com'
Cc: Lee, Samuel; Segala, John; Hernandez, Raul; Wheeler, Larry; Habib, Donald; PMSummerColpEM Resource; Wentzel, Michael; Goetz, Sujata; Simms, Tanya
Subject: info: additional feedback on draft maximum safety wet bulb RAI response discussed in 6/23/10 public meeting

Amy and Julie,

Below is additional feedback on the draft maximum safety wet bulb RAI response that was discussed in a 6/23/10 public meeting. I intend to capture this information in the meeting summary for the meeting. The meeting summary will note that the feedback was provided subsequent to the public meeting based on the NRC commitment during the meeting to provide such feedback by 6/25/10. This email will also be made publicly available on the Summer docket.

Please note that the information from Larry indicates that he does not need to review additional calculation packages that are referenced in the draft RAI response.

If you have any questions please let me know.

Sincerely,

Joe Sebrosky
Project Manager
Office of New Reactors
AP1000 Projects Branch 1
301-415-1132

From: Wheeler, Larry
Sent: Friday, June 25, 2010 9:24 AM
To: Sebrosky, Joseph; Habib, Donald
Cc: Lee, Samuel; Segala, John; Hernandez, Raul
Subject: FW: VC Summer - Wet bulb changes - public meeting

Joe and Don: I have two additional comments that need to be addressed by SCE&G.

- Comment One:

An issue we noticed that needs to be explained by SCE&G is related to the component cooling water system (CCS) temperature and the effects on the spent fuel pool temperature. SCE&G is proposing to add text to Section 9.1.3.1.3.1, "Partial Core," to address the impact of the proposed increase of the maximum safety wet bulb temperature on the spent fuel pool cooling system (SFS). DCD Section 9.1.3.1.3.1 specifically reference the **maximum normal** wet bulb temperature, not the **maximum safety** wet bulb temperature. In addition, this added text (see below) will slightly conflict with the AP1000 text shown below since it applies to refueling conditions and not power operations. It may be more suited to add a new subsection for this proposed change below since it deals with 'power operations' after a refueling outage.

It is not clear to the staff how a change in the max safety limit would impact the SFS (which is a non-safety system). The applicant is requested to clarify under what conditions/scenario is the SFS evaluated at the maximum normal wet bulb temperature and under what conditions/scenario it is evaluated against the maximum safety wet bulb temperature. Additionally, this description of applicability of these conditions/scenario needs to be included in the COL FSER.

Add the following information at the end of the third bullet in DCD Subsection 9.1.3.1.3.1 as follows:

SFS performance following restart after a normal refueling is affected by a change in maximum safety wet bulb temperature. Calculations confirm that spent fuel pool temperature remains below 115 ^{o}F with a CCS supply temperature of 97 ^{o}F at the specified pool spent fuel loading condition and decay time on the fuel fraction just replaced during the previous 17 day refueling outage.

While the maximum CCS temperature expected for VCSNS Units 2 and 3 is 97.3 ^{o}F, an increase of 0.3 ^{o}F in CCS supply temperature will produce a similar increase (ie, 0.3 ^{o}F) in the spent fuel pool maximum temperature (approximately 115.3 ^{o}F); therefore, the requirement to maintain spent fuel temperature below 120 ^{o}F is met with margin.

AP1000 R17 text-

9.1.3.1.3.1 Partial Core

The spent fuel pool cooling system is designed to remove heat from the spent fuel pool such that the spent fuel pool water temperature will be ≤ 120°F following a partial core fuel shuffle refueling. The system is designed to perform this function based on the following:

• The assumed heat load is based on the decay heat generated by the accumulated maximum number of fuel assemblies stored in the fuel pool, which includes 44% of a core (69 assemblies) being placed into the pool beginning at 120 hours after shutdown.

• Both trains of the spent fuel pool cooling system are assumed to be operating.

• The component cooling water system (CCS) supply temperature to the spent fuel pool cooling system heat exchangers is based on a service water system heat sink with a maximum normal ambient design wet bulb temperature as defined in Chapter 2, Table 2-1.

- Comment Two:

The use of max safety wet bulb is not discussed in Section 9.2.1, “Service Water System,” AP1000 DCD or VC Summer COL proposed markup. If component cooling system is affected by the increase in service water temperature, if should be discussed to some degree in Section 9.2.1.

I have no other comments and do not need to review anymore calculations. The meeting notes you had put together addressed all of my comments and concerns from the meeting on June 23, 2010.

Thanks

Larry Wheeler
US Nuclear Regulatory Commission (NRC)
Office of New Reactors (NRO)
Division of Safety Systems and Risk Assessment (DSRA)
Balance of Plant

Reactor Systems Engineer
301-415-1278

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