Doyle, Daniel

From: Doyle, Daniel
Sent: Wednesday, February 09, 2011 8:08 AM
To: Auluck, Rajender
Cc: Wentzel, Michael; Perkins, Leslie; Lehman, Bryce; Sheikh, Abdul
Subject: RE: Basemat and containment question

Follow Up Flag: Follow up
Flag Status: Completed

Categories: Salem Hope Creek

Ok, thanks Raj.

Bryce, I need a basic explanation about containment to respond to the comment in my original e-mail below. I will come talk to you about this today.

Thanks,

Dan Doyle

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From: Auluck, Rajender
Sent: Wednesday, February 09, 2011 8:05 AM
To: Doyle, Daniel
Cc: Wentzel, Michael; Perkins, Leslie; Lehman, Bryce; Sheikh, Abdul
Subject: RE: Basemat and containment question

Dan,
Bryce will be able to help you and coordinate the RASB response.

Raj

From: Doyle, Daniel
Sent: Wednesday, February 09, 2011 7:57 AM
To: Auluck, Rajender
Cc: Wentzel, Michael; Perkins, Leslie
Subject: Basemat and containment question

Raj,

We received the following comment from the state of New Jersey for the Salem Hope Creek draft SEIS. Who do you think would be the best person to talk to in order to provide a response that briefly states how the containment manages the water that flashes to steam in this type of scenario? Thanks

Comment SHC-W-14: SAMA – Breakdown of Population Dose by Containment Release Mode for Salem Generating Station / Table 5-4 / Page 5-6 / Line 10.

For the "Basemat Melt Through (BMT)", population dose is considered negligible. The BMT is a protection system for the basemat of reactor containment buildings in nuclear power stations. The system comprises a structure located in a cavity below the reactor vessel and submerged in water. The structure comprises staggered layers of stainless steel beams for intercepting molten material escaping from the reactor vessel during meltdown of the reactor core. The system is designed so that the molten material is distributed in thin layers over wings of the beams and transfers its heat to the surrounding water thus affording a rapid quenching of the molten core and safeguarding the integrity of the basemat.

Would there be any chance, even within the basemat system of staggered layers of steel beams, of a flash to steam of the molten material and potential release to the atmosphere augmenting/causing a potential contribution to population dose? Have there been model studies done to confirm the report's claims of negligible contribution to population dose? The steam generated during this core melt must be relieved somewhere.

Response: (check with a safety reviewer who is familiar with the containment for an explanation how water flashing to steam is managed)

Dan Doyle

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