

From: <Richard_J_Gallagher@dom.com>
To: "Richard Emch" <RLE@nrc.gov>
Date: 10/12/04 1:23PM
Subject: Re: SAMA 21 Discussion

Rich, Following is the follow-up discussion to our teleconference from last week:

What is the potential improvement in SAMA #20?

The improvement is a procedure for cross-tying either service water trains or CCW trains. This would require a new procedure. Because it involves cross-tying safety facilities that are required by tech specs to be separated, it would require significant engineering and safety analysis, in addition to the development of a procedure itself. In addition, this would require significant verification, validation and training. The cost estimate of \$225,000 is, in all probability, on the conservative side.

What is the potential improvement in SAMA #21?

SAMA #21 discussed three options. One option, staggering CCW pump operation when SW fails, would be of extremely limited benefit that would essentially provide insignificant additional heat removal capability. Another, shedding CCW loads to extend heatup time, is already proceduralized. The third, cross-tying pumps, which would involve the same train separation issues discussed above, would be the only potentially viable alternative.

This SAMA was originally identified as a procedure enhancement, because there are existing procedures for loss of service water and loss of CCW. However, upon further evaluation, modification of the existing procedures in a manner that would accommodate the changes described above would not be allowed. Therefore, SAMA 21 would, in fact, be identical to SAMA 20.

Why is a success probability of 90% reasonable?

To assign a benefit to this SAMA, an appropriate modification to the PRA model had to be made. The modification that was made here was to set the success of operator action for the realignment to 90%. This does not necessarily mean that the 10% failure probability is due strictly to human error (even though that implication is made by the way it is modeled). It includes the possibility that an unanticipated obstacle (e.g., a challenging environment caused by the specific nature of the event) prevents completion of the realignment, requiring some other action. Because the postulated cause of the loss of SW/CCW is indeterminate, a probability of 90% success is assigned to this scenario to account for:

The possibility that the operator is unsuccessful in establishing the cross-tie, due to either human error, reluctance to violate the train separation requirements, or the difficulty of the task (depending on the scenario, a cross-tie would involve manipulation of from 4 to 8 large manually operated valves, in a specific order).

The possibility that the cross-tie is not established, due to the nature of the particular scenario, necessitating other actions.

As always, please let me know if you have any further questions.

Regards,

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