

Santos, Cayetano

From: Hossein Nourbakhsh - *HN*
Sent: Monday, June 02, 2008 12:21 PM
To: Cayetano Santos
Subject: FW: Reconciliation Memo on SOARCA
Attachments: Reconciliation-SOARCA-May 20.doc

From: Hossein Nourbakhsh
Sent: Monday, June 02, 2008 12:20 PM
To: W Shack (b)(6) [redacted]
Cc: Jessie Delgado
Subject: Reconciliation Memo on SOARCA

ET.6

Bill,

Attached is my analysis of the recent EDO's Letter on SOARCA for your review and approval.

Thanks,

Hossein

D/G

May 30, 2008

MEMORANDUM TO: William J. Shack

FROM: H. P. Nourbakhsh, Senior Staff Engineer

SUBJECT: ANALYSIS OF EDO RESPONSE TO ACRS LETTER ON
STATE-OF-THE-ART REACTOR CONSEQUENCE
ANALYSES (SOARCA) PROJECT

Attached for your perusal is a copy of the EDO's May 20, 2008 letter, responding to ACRS's April 21, 2008 Letter to the EDO concerning State-of-the-Art Reactor Consequence Analyses (SOARCA) Project. A copy of the Committee's April 21, 2008, letter to the EDO is also attached.

Committee Letter

In its April 21, 2008 Letter to the EDO, the Committee commented on the EDO's April 7, 2008 letter indicating that the staff did not agree with the Committee's recommendation that a limited set of level-3 probabilistic risk assessments (PRAs) be performed to benchmark the SOARCA approach. Following are the Committee's specific comments:

- The Staff's position might be acceptable if SOARCA were primarily for internal NRC use. However, the SOARCA results are also expected to provide the foundation for communicating this aspect of nuclear safety to Federal, State and Local authorities, licensees, and the general public.
- The Committee continues to believe that the credibility of the SOARCA Project cannot rely on confidence in the judgment of the staff and on a novel analysis procedure that differs substantially from previous state-of-the-art analyses of the consequences of severe reactor accidents.
- Without including benchmark analyses similar in scope, it will be difficult to demonstrate convincingly that reductions in consequences that might be indicated by the SOARCA results reflect the impact of enhancements in plant design and operation, and improvements in calculation methods for accident progression and consequence analysis, rather than changes in the scope of the calculation.

EDO Response

The EDO's response, dated May 20, 2008, touched on the April 21, 2008 Committee's letter to the EDO as well as an informal meeting between the staff and several members of the Committee on May 8, 2008. Following are the staff's responses to the Committee's comments:

- The staff understands that the two main concerns the Committee has with the SOARCA methodology are: (1) assuring that the methodology does not inadvertently or otherwise omit high consequence sequences that are of lower frequency than the cut off frequency; and (2) clear presentation of the SOARCA approach and results to both internal and external stakeholders.
- The main goal of SOARCA is to develop a more realistic, state-of-the-art evaluation of severe accident progression, radiological releases, and offsite consequences for dominant accident sequences. Therefore, the staff applied a cut off frequency to focus the study on those dominant accident sequences. Although SOARCA was not meant to be a risk study, while completing the analyses for Surry and Peach Bottom, the staff has used available risk insights to complement the cut off frequency in identifying dominant accident sequences.
- We recognize that it is incumbent upon the staff to provide the ACRS with the information necessary to clearly articulate and document the SOARCA considerations and approach, and to present the results in the most understandable fashion for the different stakeholders.
- The staff plans to investigate what industry-developed level-3 probabilistic risk assessments are available, or explore other methods that could be used to clarify the SOARCA methodology. The staff will also use insights from this activity to help properly and clearly communicate the results of SOARCA.

Analysis

The staff restated its justifications for the current SOARCA approach. The Staff plans to clarify the SOARCA methodology. The intent of the staff is not clear. The meaning of "to clarify" is substantially different than "to benchmark."

Attachments: As Stated

cc w/o attach (via E-mail):

ACRS Members

F. Gillespie

J. Flack

C. Santos

S. Duraiswamy

ACRS Technical Staff