

**GE Nuclear Energy**

ABWR

Date 6/10/92Fax No. -

CC: JACK FOX

To TONY D'ANGELOCHET POSLUSNY 11H3VThis page plus 3 page(s)From UMESH SAXENAMail Code 780  
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or (408) 925-1687Subject WETWELL - TO REACTOR BUILDING NEGATIVE  
DIFFERENTIAL PRESSUREMessage ATTACHED IS DOCUMENTATION OF OUR TWO  
PHONE CALLS (5/18/92 AND 5/27/92) IN  
WHICH WE DISCUSSED AND RESOLVED ONE NEW  
QUESTION ON THE SUBJECT ANALYSIS. THIS  
QUESTION WAS IDENTIFIED IN GE/NRC  
5/6/92 MEETINGS AND IT WAS RELATED TO  
THE ASSUMPTION OF RW INITIAL RELATIVE  
HUMIDITY VALUE IN THE SUBJECT ANALYSIS.9206260280 920610  
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## EXHIBIT A

GE Response to Staff Question on PCVBS Analysis  
(SAR Subsection 6.2.1.1.4.2)

SUBJECT: Wetwell-to-Reactor Building Negative Differential Pressure Analysis

This exhibit is to document GE response to and resolution of staff question on the subject analysis.

## STAFF QUESTION

In the May 6, 1992 GE/NRC meetings in Rockville, staff questioned appropriateness of the assumption of 20% initial drywell relative humidity in the subject analysis, considering that drywell relative humidity greater than 20% can be expected during plant operating conditions. GE understood the question and committed to clarify and provide confirmation for the appropriateness of assuming 20% drywell initial relative humidity.

## GE RESPONSE

This subject question, specifically pertaining to the event of drywell/wetwell spray actuations during plant normal operating conditions, was discussed in detail and resolved during two telephone calls between GE (Umesh Saxena) and staff (Tony D'Angelo). Following is a summary of discussion in these telephone calls.

GE/NRC Telephone Call - 5/18/92

In this telecon, procedure and assumptions used for the subject analysis were reviewed and discussed. It was noted that SAR identifies three events which are expected produce wetwell depressurization resulting in significant negative differential pressure between primary containment vessel (drywell and wetwell) and the reactor building, and they are:

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- (a) drywell and wetwell spray actuation during normal operation;
- (b) wetwell spray actuation subsequent to stuck open relief valve; and
- (c) drywell and wetwell spray actuation following a LOCA.

Also, it was noted that SAR identifies Event (b) as the limiting transient determining the maximum negative differential pressure, but presents results only for Events (b) and (c) to conclude that Event (b) transient produces the most severe negative differential pressure. It was recognized and agreed that drywell initial relative humidity value will have a trivial effect, if any, on the Events (b) and (c) analysis results, but Event (a) analysis which involves actuation of drywell/wetwell spray under normal operating conditions will be more sensitive to the initial relative humidity value. Relative humidity values higher than 20%, implying higher fraction of steam mass in the drywell, are expected to produce drywell depressurization condition more severe than those based on 20% drywell relative humidity value.

Recognizing that drywell initial relative humidity will have an effect on Event (a) analysis results, it was agreed that Event (a) will need to be reanalyzed to determine its sensitivity to initial relative humidity value. It was also noted that suppression pool initial temperature, which determines temperature of drywell/wetwell spray water (suppression pool is the water source for sprays), will be of significance to Event (a) analysis. It was then agreed to reanalyze Event (a) for its sensitivity to these two initial conditions. Identified and defined two cases for this sensitivity analysis. Case 1): DW initial R.H = 20%, and suppression pool initial temperature = 95 F; and Case 2): DW initial R.H = 60% and suppression pool initial temperature = 75 F.

Case 1 represents SAR specified initial conditions, and Case 2 represents a non-mechanistic and extremely conservative combination of relative humidity and pool temperature values.

#### GE/NRC Telephone Call - 5/27/92

In this telecon, results from Cases (1) and (2) were provided and discussed. The calculated maximum negative differential pressure for Cases (1) and (2) were found to be (-0.98) psi and (-1.48) psi, respectively. This confirmed that Event

(b), which produced a negative differential pressure of (-1.77) psi, is the most limiting event, as noted in SAR. It was also noted that actuation of WW spray at start of an SORV event (which may result in cold WW spray) is highly unlikely, considering that WW spray actuation (per EPGs) is not permitted if WW airspace pressure is below about 10 psig.

In conclusion, it was agreed that the subject item is now closed. In response to staff question about documentation of these results, GE confirmed that SAR (Subsection 6.2.1.1.4.2) will be modified, as necessary, to include the subject analysis results reviewed and discussed in these two telephone calls.

< TRANSACTION REPORT >

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