

REGULATORY PROJECT FILE COPY

Central files

OCT 9 1980

50-3/247/286/295/304

US NRC
DISTRIBUTION SERVICES
BRANCH

1980 NOV 7 PM 12 12

REGULATORY DISTRIBUTION
SERVICES UNIT

MEMORANDUM FOR: T. P. Speis, Chief, Reactor Systems Branch, DSI
FROM: J. Meyer, Reactor Systems Branch, DSI
SUBJECT: UPDATE ON RES. ACTIVITIES RELATED TO THE Z/IP ACTION

On Thursday, September 25, 1980, I met with C. Kelber, M. Silberberg, and M. Cunningham to discuss what NRR can expect from RES to support the Z/IP mitigation features program through January 1, 1981. We traced through the program by following the outline in Section V of my memo to you of September 29, 1980, "Update of Z/IP Action: Task 3..." Following this outline then, I list below RES activities and schedule (near term and specific to Z/IP):

A. Select Accident Sequences - No further near-term work in this area from RES.

B. Containment Loadings:

B-1 Steam Explosion:

- (1) Sandia is completing two updates: an assessment of the probability of containment failure and an assessment of steam-explosion modeling, both of which should be available by October 17, 1980. Also an assessment of the Corium Field Tests will be made available by October 17, 1980.
- (2) RES concerns relative to steam-generator tube failure following a steam explosion are not as strong as they once were; this due to a new analysis of the problem. This new analysis, which indicates that the tubes will not fail, will be available by October 22, 1980.
- (3) Data from recent FITS steam-explosion tests at 10 atm (Test 5A) will be available for our use in making our final assessment. These data will be transmitted to us in a "Quick-Look" report by November 15, 1980.

B-2 Containment Failure due to Hydrogen Burning:

- (1) There is no direct work planned for Z/IP in this area beyond the recently published hydrogen compendium (NUREG/CR-1561).

B-3 Containment Failure due to Steam Overpressurization:

- (1) Two tests are planned for the FITS facility this fall which are directed to answering of questions concerning the steam spike issue. The pertinent data on the first test will be made available to us in a Quick Look Report by December 15, 1980.

OFFICE				
SURNAME				
DATE	8011200006	P		

- (2) RES will make "CORCON Mod 1" available to us for T.A. contractor use. (User's Manual Package by October 31, 1980 and code on BNL computer by November 15, 1980).

B-4 Containment Base-Mat Melt-through:

- (1) RES will provide a "Trip Report" to us by December 15, 1980 on the October meeting with the Germans where there will be a CORCON/WECHSL comparison to experiment. Specifically the molten core/concrete penetration problem will be addressed.
- (2) Information on the hot-solid concrete penetration problem will be reported by October 31, 1980 in a Sandia report on the "Burn Series." There will be first quarter (FY81) testing of $SST + UO_2$ on basalt. RES will keep us informed on the results of these tests.
- (3) There will be no near-term liquid Pathway work available from RES that is either specific to or otherwise germane to the Z/IP plants (in addition to what has already been provided).

B-5 MARCH/CORRAL/CRAC:

No further near-term work in this area from RES.

C. Basic Fundamental Requirements

No further near-term work in this area from RES.

D. Mitigation Features

(1) FVCS

- a) RES will permit us to use Al Benjamin (Sandia) as a consultant on FVCS starting November 3, 1980 as long as we do not take up too much of his time. Other than that, there will be no new RES input to the FVCS area in the short term. (This "consulting" agreement was reached at another meeting, October 3, 1980 with Al Benjamin, Mel Silberberg, Mark Cunningham and Gordon Edison present).
- b) C. Kelber will report back to us any new developments in Sweden in this FVCS area when he returns from Europe.

(2) Hydrogen Control

- a) RES is putting together a hydrogen mitigation features program for CSB specifically directed to Sequoyah which, for example, will explore the use of halons. Also a new program at Idaho is presently gearing up to study actual engineering designs of hydrogen control features. The timing or direction of these two programs

OFFICE >	is such that I see no immediate benefit from them for the Z/IP mitigation features effort.
SURNAME >	
DATE >	b) In addition, PAS is planning a general \$200,000 program in hydrogen control, but with no short-term application.

OCT 9 1980

c) Dr. Kelber expressed the need for large-scale testing of hydrogen burn and control.

(3) Core Retention Devices

Other than the NRR and NRR/TA staff working closely with the relevant Sandia Technical staff in this area, there are no other RES programs that will meet our immediate needs. The results of ongoing separate effects tests with MgO will be provided as they become available.

I will be keeping you informed regarding the work in this area.

151

J. Meyer
Reactor Systems Branch
Division of Systems Integration

cc: C. Kelber
M. Silberberg
M. Cunningham
G. Edison

Distribution

H. Denton
D. Ross
P. Check
E. Case
T. Speis
J. Meyer
E. Fenstermacher
W. Butler
J. Carter
A. Marchese
Docket Files (Zion/Indian Point)
NRR Reading
RSP Reading
P. Williams.

OFFICE	OSI: RSB	OSI: RSB			
SURNAME	J. Meyer: 1k	T. Speis			
DATE	10/9/80	10/9/80			

100

NOV 4 1980

B. 12/13/80