



Virginia Tech  
 Faculty Development  
 1400 15th Street

June 25, 1979

Dear Mr. Reid:

Very truly yours,

Sowell 2/12

CC: G. M. Mazet 18

POOR ORIGINAL

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100.  
ROSS  
D. N. C. A. E. S. I. T.  
J. H. E. A. E. I. T.  
S. R. O. S. P. A. E. T. H.  
M. C. A. P. A. E. T. H.

III Brittle Failure Report of June 15

The subject report entitled "Evaluation of Reactor Vessel Brittle Failure Due to Injection of Cold LPT Water During Small LOCA Events", is not directly applicable to Davis-Besse Nuclear Power Station, Unit 1 (DB-1). Due to specific design and manufacturing differences of DB-1 several of the assumptions do need to be qualified for our facility. These include:

1. This report addresses the first several hours of a small break or loss of feedwater transient. It does not address long term operation without auxiliary feedwater.
2. Areas of the report discuss high pressure injection while RCS pressure is greater than 1600 psig. These sections for DB-1 would be applicable to the use of injection from the make-up system.
3. Two areas of the J. M. Taylor to T. M. Novak letter dated June 14, 1979 need to be altered. They are on page 2.

a. The chart in paragraph two should read:

| <u>Time After Trip</u> | <u>RCS Pressure</u> |
|------------------------|---------------------|
| 3 hours                | 1189 psig           |
| 5 hours                | 1173 psig           |
| 10 hours               | 1153 psig           |

- b. The maximum allowable pressure in paragraph three for DB-1 is 2500 psig rather than 1240 psi. This is due to the fact that the DB-1 forged vessel has no longitudinal welds and DB-1 has better material fracture toughness than other 177 FA operating plants.
4. The material properties that the report is based on are generic and conservative for DB-1.
5. At the beginning of transients of concern the reactor vessel vent valve flow will sufficiently mix with the flow of two make-up pumps through one reactor vessel cold leg nozzle to prevent any brittle failure.

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