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MEMORANDUM FOR: Brian W. Sheron, Acting Chief, Reactor Systems Branch, DSI
THRU: Gerald Mazetis, Section Leader, Section C, RSB, DSI
FROM: Jukka Laaksonen, Section C, Reactor Systems Branch, DSI
SUBJECT: GINNA SG TUBE RUPTURE EVENT

50-244

For your information, I had an opportunity to discuss the Ginna SG tube rupture event with Westinghouse representatives who are responsible for developing generic emergency response guidelines for Westinghouse plants. The discussions took place February 9, 1982.

From the discussion I learned that Westinghouse has available detailed primary and secondary parameters from the very beginning of the event. The information has been extracted from the computer printouts and the parameters were plotted with about one minute intervals. The parameters included at least following:

- 1) Temperature in the core exit.
- 2) Temperature in both cold legs
- 3) Temperature in pressurizer (unclear in which part of the psi)
- 4) Temperature in the upper head
- 5) Pressure in the reactor coolant system
- 6) Pressure in both steam generators

The following observations could be made from the curves:

1. The secondary pressures were equal and had decreased to about 800 psi at the time the ruptured SG was isolated. Westinghouse explained that the pressure decrease was attributed to the cold auxiliary feedwater. As soon as the ruptured SG B was completely isolated the pressure started to increase and was about 900 psi at 10:07 when the operator started to depressurize the RCS to the same pressure.
2. The RCS pressure decreased too low (800 psi) because the operator could not close the PORV. The intent was to stop depressurization at 900 psi. The stuck open PORV caused also the pressurizer to fill with relatively cold water and normal pressure control was lost.
3. Westinghouse explanation on the history of steam bubble in the upper head is that the bubble was formed at 10:08, after the PORV had stuck open. The bubble persisted until the operators started the RCP in loop A. Westinghouse has diagnosed the existence of the bubble by comparing the upper head and pressurizer temperatures. This comparison indicates that from 10:08 to 11:29 the upper head was the hottest part of the system.

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MAR 01 1982

- 4. Westinghouse position is that the operators should have terminated the SI when told to, inspite of the bubble. A note will be added to the SG tube rupture guidelines which tells not to worry about a possible steam bubble in the upper head at that time because it will be condensed when one RCP is started.

Original signed by:

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