MAR 23 1990

MEMORANDUM FOR: Brian W. Sheron, Director
Division of Systems Research
Office of Nuclear Regulatory Research

FROM: Warren Minners, Director
Division of Safety Issue Resolution
Office of Nuclear Regulatory Research

SUBJECT: Comments Regarding Your March 9 Memorandum to Gary Burdick Concerning the INEL Report "Assessment of the Potential for IS-LOCA at the Davis-Besse Nuclear Power Station."

Our comments address the following question raised by the subject Memorandum:

> "The benefits to be gained by continuing this effort on two more plants should be addressed (i.e., is it obvious that there are things we could learn by doing a second plant that would change our expected backfit?)."

We believe the subject draft report is a comprehensive first step toward determining the risk due to IS-LOCA events at Davis-Besse, including the causes of that risk and the measures that would be most effective toward its reduction. Possibly for the first time in nuclear-power-industry-related PRA work, an analyst has looked for, identified, and then succeeded in approximately quantifying a potential human-error-of-commission-related event before it occurs!

However, we are concerned that the present report, taken by itself, only serves to imply that a significant portion of the total IS-LOCA risk at one plant results from a single postulated event (premature initiation of the shutdown cooling mode while the system is at high pressure). In the real world, as opposed to the analytical world of assumed events, what INEL has actually identified is one example of the many possible very-low-frequency IS-LOCA events resulting from, or exacerbated by, errors of commission.

Even if it is unlikely that extending the analyses to other plants will change the presently expected backfit (better training and procedures and instrumentation to lessen the frequency of operator errors, including errors of commission such as the one identified), nevertheless, such an extension is needed to defend the bases for such a backfit while such a proposal makes its tortured path through the staff's concurrence chain, with a potentially hostile industry opposing the backfit.

As it now stands, too much of INEL's very significant contribution to calculation of risk from errors-of-commission is dependent upon defending the credibility of a single identified event at a single plant. That defense is vulnerable, and it isn't the conclusion on which we want to concentrate our defense, anyway. Our defense of such a backfit, to be successful, must be able to say that examples of this general type of event show up at many plants, including all the ones we've looked at (which must be at least two more plants in addition to the present single plant).

We believe INEL should concentrate their efforts regarding additional plants on the most significant (and least certain) issue, which is human errors (particularly, errors of commission). To enable this, INEL could use a less extensive effort in other areas. For example, we believe INEL should develop a reasonable, relatively simple algorithm to determine assumed break locations utilizing the extensive fragility calculations that have already been performed for Davis Besse. Few more (or no more) fragility calculations should be necessary for the additional plants. Slight changes in the assumed event's details will probably change the most likely break location, anyway. We believe the uncertainties resulting from the approach in this example will tend to "average out" over the broader spectrum of all feasible events (including both those specifically calculated in development of the algorithm and the much larger family of those that are not identified and/or calculated).

In summary, while we certainly agree with the caution in your March 9th memorandum to take the time to see what you have in the Davis Besse work and where you are headed, we strongly encourage that added plant analyses be pursued to support any likely backfit. Our Revision 4 to the Task Action Plan (TAP) for Generic Issue (GI)-105, "Interfacing Systems LOCA in LWRs", issued February 13, 1990, assumes that results will be available from the INEL analyses orginally planned for six plants. Results from more than the presently completed single plant are considered vital to the success of this recently approved TAP.

"Original Signed By"

Warren Minners, Director
Division of Safety Issue Resolution
Office of Nuclear Regulatory Research

cc: T. Speis
E. Beckjord

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

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