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June 15, 1984

MEMORANDUM FOR: C. J. Heltemes, Jr., Director
Office for Analysis and Evaluation
of Operational Data

AEOD/N402

THRU: Kathleen M. Black, Chief
Nonreactor Assessment Staff, AEOD

FROM: Eugene A. Trager
Nonreactor Assessment Staff, AEOD

SUBJECT: ENGINEERING EVALUATION OF EVENTS INVOLVING UNDETECTED
UNAVAILABILITY OF THE TURBINE-DRIVEN AFW TRAIN

Attached is the subject engineering evaluation. The study focused on the human factors aspects of the events. The events were found to have minor safety significance because (1) the motor-driven AFW pumps were always operable and available, and (2) the LCO time periods were generally not exceeded. Corrective actions taken by the licensees subsequent to the events appear adequate to prevent recurrence at the licensee facilities. However, because events involving undetected unavailability of the turbine-driven AFW train could be significant at other plants or under other circumstances, it is concluded that further action is called for, perhaps issuing an Information Notice.

The events are of interest from a human factors standpoint. There are examples of how unanticipated factors can combine to make preventive actions ineffective. In addition, three of the five events were failures to return a safety system to service in operating condition, including the failure to verify. Finally, maintenance was a significant contributing factor in four of the events.

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Eugene A. Trager
Nonreactor Assessment Staff, AEOD

Attachment:
As stated

w/att.
cc: /W. Lanning, AEOD
Resident Inspectors at Sites Listed in Table 1
DPickett, NRR
HRood, NRR

8407240354 840615
PDR ADOCK 05000244
S PDR

OFFICE ▶	NAS <i>EAT</i>	C/NAS <i>EAT</i>				
SURNAME ▶	ETrager:eh	KBlack <i>for</i>				
DATE ▶	6/14/84	6/14/84				