

JUL 30 1979

REGULATORY BOARD FILE COPY

MEMORANDUM FOR: R. J. Mattson, Director
TMI-2 Lessons Learned Task Force

FROM: C. G. Long, Lessons Learned Task Force Member

SUBJECT: REVIEW OF LER'S FOR LOSS OF SAFETY FUNCTION DUE TO
PERSONNEL ERROR AND DEFECTIVE PROCEDURES (50-320)

In support of the Lessons Learned Task Force recommendation 2.2.3, "Revised Limiting Conditions for Operation of Nuclear Power Plants Based Upon Safety System Availability" contained in NUREG-0578 dated July, 1979, a review of the available LER's was performed. This review was intended to identify those instances in which personnel error or defective procedures caused a loss of safety system function.

The LER data printout was obtained covering 70 operating reactor units for the period of November, 1969 to May, 1979. The total number of LER's reported for the two subject categories was 2640. The review of these data on personnel and procedural error indicated a total of 139 LER's had resulted in a loss of a safety function.

A general breakdown of the type of loss and the number of occurrences is presented below. Enclosed is a listing of the plants reporting losses of safety function by personnel or procedural error and the number per year. Note that these were twenty one plants with no apparent losses of this type in the 10 year period.

Type:	Total Number	FWR	BWR
Loss of Safety Cooling Systems	29	20	9
Loss of Auxiliary Feedwater Systems	7	7	0
Loss of Emergency Power Systems	16	10	6
Loss of Primary Containment Integrity	40	24	16
Loss of Secondary Containment Integrity	26	4	22
Loss of Part of Reactor Protec. System	6	3	3
Miscellaneous	15	12	3
TOTAL	139	80	59

The data used to develop this information are only approximate and have several qualifications that should be kept in mind. First, not all losses of safety function were necessarily reported in LERs. Second the deview done here was general

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and based solely on the LER printout information. It should also be noted that some of the safety function losses included in the above tabulation only lasted for a few minutes before corrective action was taken. These short time losses of safety function are, however, indicative of recurring losses that did not appear to be corrected by simply instructing operations personnel on the seriousness of the mistake.

Based on this general review of the LER data, approximately 5% of the personnel errors and defective procedures reported over a ten year period resulted in a complete loss of a safety function.

C. G. Long, Member
TMI-2 Lessons Learned Task Force

Enclosure:
As stated

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FROM: C. G. Long, Lessons Learned Task Force Member

SUBJECT: REVIEW OF LER'S FOR LOSS OF SAFETY FUNCTION DUE TO
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In support of the Lessons Learned Task Force recommendation 2.2.3, "Revised Limiting Conditions for Operation of Nuclear Power Plants Based Upon Safety System Availability" contained in NUREG-0578, dated July, 1979, a review of the available LER's was performed. This review was limited to personnel error or defective procedures that caused a loss of safety system function.

The LER data printout was obtained covering 70 operating reactor units for the period of November, 1969 to May, 1979. The total number of LER's reported for the two subject categories was 2640. The review of these data indicated a total of 132 LER's had resulted in a loss of a safety function.

A general breakdown of the type of loss and the number of occurrences is presented below. Enclosed is a listing of the plants reporting losses and the number per year.

Type	Total Number	PWR	BWR
Loss of Safety Cooling Systems	29	20	9
Loss of Auxiliary Feedwater Systems	7	7	0
Loss of Emergency Power Systems	16	10	6
Loss of Primary Containment Integrity	40	24	16
Loss of Secondary Containment Integrity	26	4	22
Loss of Part of Reactor Protec. System	6	3	3
Miscellaneous	16	12	3
TOTAL	132	80	52

The data review was general and based solely on the printout information. Some of the safety function losses included in the above tabulation only lasted for a few minutes due to corrective action being taken. These short time losses are, however, indicative of reoccurring losses that did not appear to be corrected by simply instructing the plant personnel on the seriousness of the loss.

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Therefore, based on this general review of the LER data, approximately 5% of the personnel errors and defective procedures reported over a ten year period resulted in a loss of a safety function.

C. G. Long, Member
TMI-2 Lessons Learned Task Force

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