

50-346

MAR 1 1977

MEMORANDUM FOR: D. F. Ross, Jr., Assistant Director for Reactor Safety, DSS
 THRU: Thomas M. Novak, Chief, Reactor Systems Branch, DSS
 FROM: Gerald Mazetis, Section Leader, Reactor Systems Branch, DSS
 SUBJECT: 2/17/77 APPEALS MEETING WITH TOLEDO EDISON COMPANY ON
 DHR ISOLATION VALVES

A staff position previously transmitted to TECO stated that locking out power to the DHR isolation valves during shutdown was not acceptable. The basis for this decision was:

1. Our judgement that the automatic feature provides desired additional assurance that both isolation valves would be closed during power operation.
2. Recent staff agreement (DeYoung/Ippolito/Baer/Novak/Mazetis/Berlinger, et al) that the automatic closure feature during shutdown operation should be retained

It is my opinion that we heard little at the TECO appeal meeting to change our minds.

The two major points brought up by TECO were:

1. Both DH pumps, as well as the reactor coolant pressure protection are subject to the inadvertent closure of the DHR valves which would cause a loss of all decay heat removal capabilities.

-RESPONSE: Agree; however, there are other ways around this problem. For the present, it looks like raising the auto isolation setpoint of the DHR valves and not allowing both trains to be operating during shutdown cooling (one train on standby) would be a feasible interim solution to get the plant on the line.

2. The change would not afford any additional pressure protection (double valve isolation) during startup since a single active failure could prevent one of the two valves from closing as the system is designed at this time or if a change were made.

Contact:

MEMO-4

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DATE →					

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-RESPONSE: Disagree. As shown in the attached diagram, by disconnecting the power to these valves, an additional failure mode is introduced which is not present when power is available. This additional failure mode (circled) is the operator forgetting to restore power on one, or both, valves.

It should be noted that the complete spectrum of failure modes was not included in the diagram, such as common mode failures and valve disc separations; however, the point is that the diagram shows that an additional failure mode is introduced in the overall scheme. More work would have to be performed before a rigorous assessment could be made of exactly what this additional failure mode would introduce in terms of its finite contribution to the overall probability estimate of a LOCA outside containment.

Original signed by:

G. R. Mazetis, Section Leader
Reactor Systems Branch
Division of Systems Safety

Enclosure:
Diagram

cc: T. Novak
S. Israel
G. Mazetis

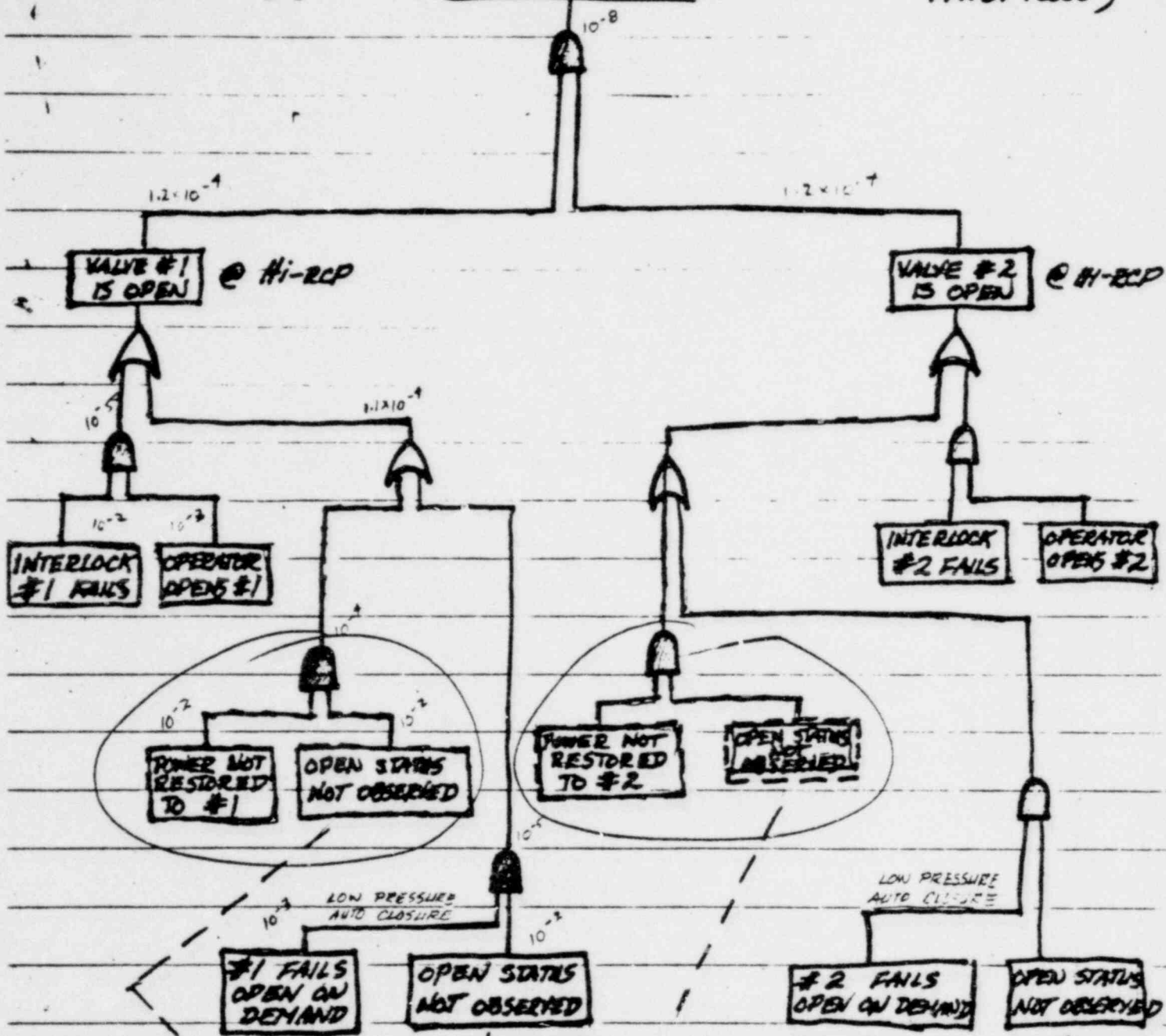
Central File ←
RSB Reading
Mazetis Chron

OFFICE →	DSS: <i>[Signature]</i>	DSS:RSB				
SURNAME →	GMazetis:db	TNovak				
DATE →	3/1/77	3/1/77				

POWER OFF
DHR VALVES

LOCA OUTSIDE CONTAINMENT

→ i.e., loss of barrier integrity (LP-to-HR interface)



- ① IF BOTH VALVES #1 & #2 ARE OPEN, OPERATOR MUST FAIL TO OBSERVE ALARMS, INDICATORS, DHR RELIEF TO CONTAINMENT, ETC.
- ② IF EITHER VALVES #1 OR #2 IS OPEN, OPERATOR MUST FAIL TO OBSERVE INDICATOR.

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