

PRECURSOR DESCRIPTION AND DATA

NSIC Accession Number: 163478

Date: July 10, 1980

Title: HPCI and RCIC Fail to Inject Following Scram at Hatch 1

The failure sequence was:

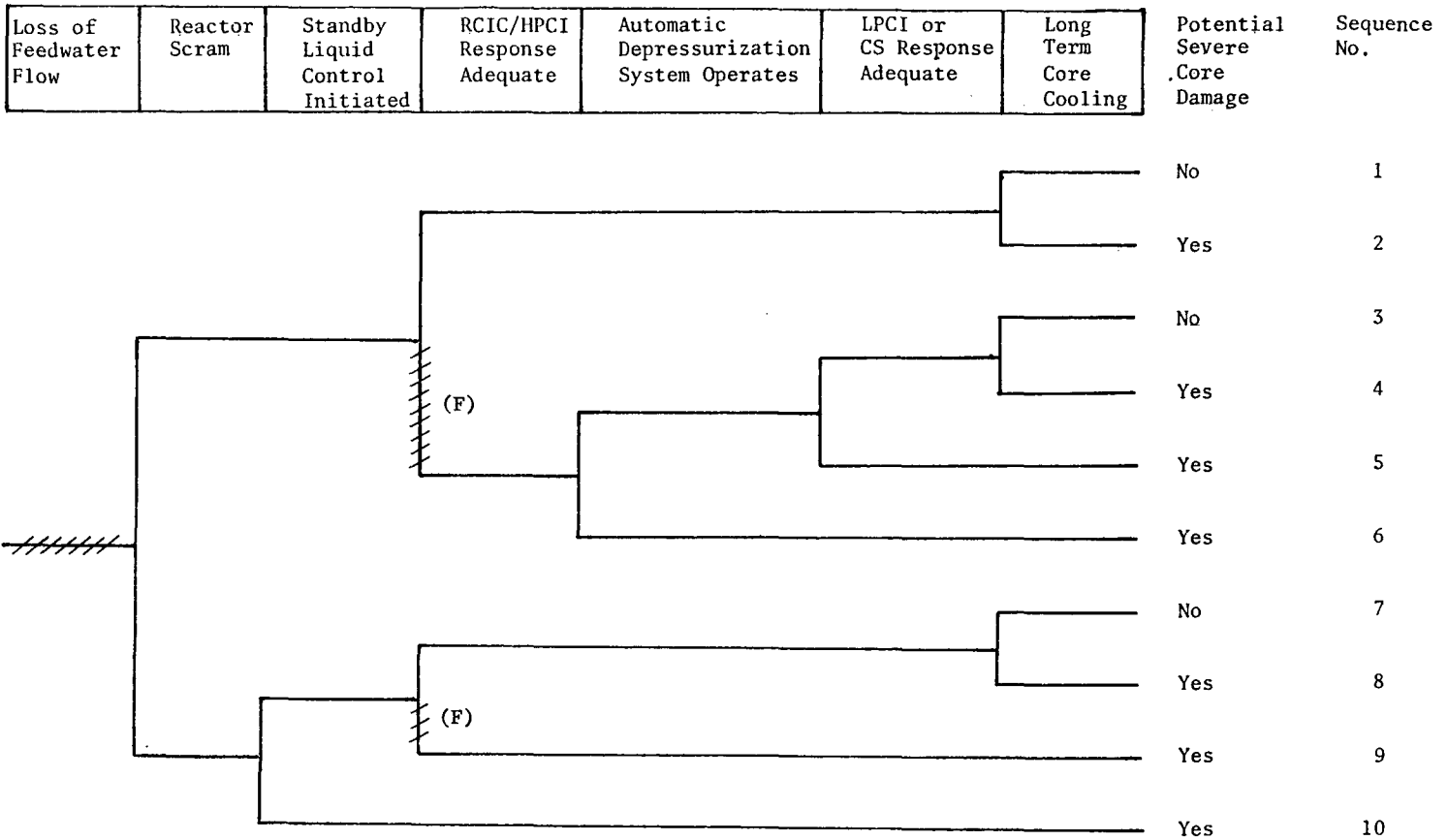
1. At 99.4% power, an erroneous reactor high water level signal initiated tripping of the feedwater pumps and the turbine/generator, which subsequently resulted in a reactor scram.
2. The reactor water level dropped to the low-low level set point.
3. The feedwater pump started but tripped since the MSIVs were closed.
4. On low low level the HPCI system received an auto-initiation signal but failed to inject water into the reactor due to automatic isolation of the HPCI turbine caused by the initial high steam pressure to the HPCI turbine.
5. RCIC was manually initiated during the event, but failed to start and remained inoperable throughout the event.
6. About 5 min after the event began, the operators cleared the HPCI steam supply isolation trip and HPCI auto-initiated successfully and injected water into the core.

Corrective action:

1. The HPCI isolation, due to steam line high pressure differential, was caused by the turbine speed controller being out of calibration. The system was recalibrated and HPCI tested satisfactorily.
2. The RCIC failure, determined to be due to a faulty limit switch and/or relay, was corrected by replacement of both components. The system was then tested satisfactorily.
3. Calibration surveillance and test procedures were being revised to include cold quickstarts of both HPCI and RCIC.

Design purpose of failed system or component:

RCIC provides RCS makeup following reactor trip or loss of feedwater. HPCI provides cooling to the core given a small break LOCA.



NSIC 163478 - Sequence of Interest for RCIC and HPCI Failure to Inject Following Scram at Hatch 1

CATEGORIZATION OF ACCIDENT SEQUENCE PRECURSORS

NSIC ACCESSION NUMBER: 163478

LER NO.: 80-069

DATE OF LER: July 10, 1980

DATE OF EVENT: June 26, 1980

SYSTEM INVOLVED: HPCI and RCIC systems

COMPONENT INVOLVED: HPCI speed controller; RCIC trip switch and relay

CAUSE: Failed components, improper calibrating procedures

SEQUENCE OF INTEREST: Loss of feedwater

ACTUAL OCCURRENCE: HPCI and RCIC fail to inject following scram

REACTOR NAME: Hatch 1

DOCKET NUMBER: 50-321

REACTOR TYPE: BWR

DESIGN ELECTRICAL RATING: 777 MWe

REACTOR AGE: 5.8 years

VENDOR: General Electric

ARCHITECT-ENGINEERS: Bechtel

OPERATORS: Georgia Power Co.

LOCATION: 11 miles north of Baxley, Georgia

DURATION: N/A

PLANT OPERATING CONDITION: Power not specified prior to scram

TYPE OF FAILURE: Failed to start

DISCOVERY METHOD: Operational event

COMMENT: