

PRECURSOR DESCRIPTION AND DATA

NSIC Accession Number: 166082

Date: May 7, 1981

Title: Loss of RCIC and HPCI Systems at Brunswick 2

The failure sequence was:

1. At approximately 37% power, during performance testing, the HPCI system injection valve failed to open due to burned windings in the valve motor operator.
2. The HPCI system was declared inoperable.
3. During subsequent testing of RCIC, a faulty resistor in the RCIC turbine governor controls caused a loss of speed control, followed by an overspeed trip, making the RCIC system inoperable.
4. Both HPCI and RCIC systems were inoperable.

Corrective action:

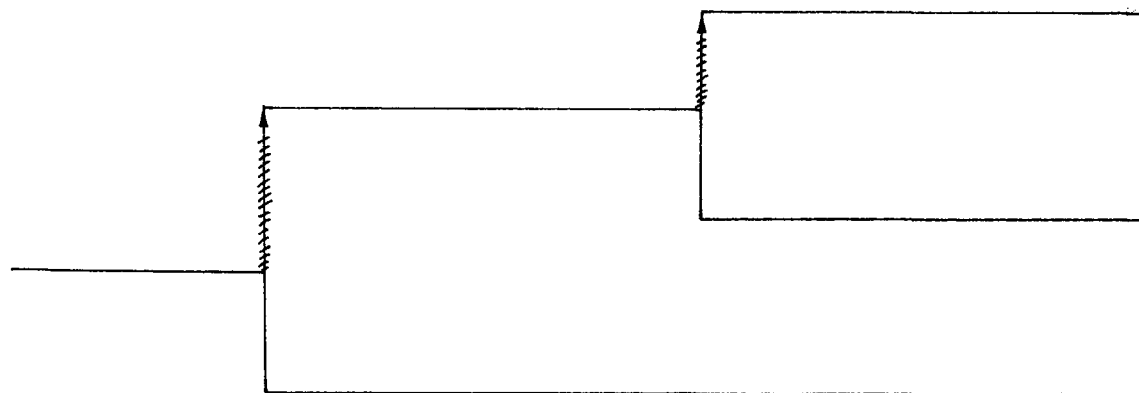
1. The faulty HPCI valve motor operator, which was found to have burned windings, was replaced, tested satisfactorily, and returned to service.
2. A thorough investigation of the HPCI failed motor windings did not reveal cause for the failure.
3. The faulty RCIC resistor was replaced, and the system was tested satisfactorily and returned to service.

Design purpose of failed system or component:

1. RCIC provides reactor water level makeup following trip when the feedwater system is unavailable.
2. HPCI provides reactor core cooling in the event of a small break LOCA.

HPCI test is under way with reactor at 37% power	HPCI injection valve fails to open due to burned motor windings, resulting in HPCI inoperability	RCIC found inoperative due to failed resistor in turbine governor
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Potential
Severe
Core
Damage



No - no requirement
for HPCI, RCIC

No

No

CATEGORIZATION OF ACCIDENT SEQUENCE PRECURSORS

NSIC ACCESSION NUMBER: 166082

LER NO.: 81-039

DATE OF LER: May 7, 1981

DATE OF EVENT: April 10, 1981

SYSTEM INVOLVED: HPCI and RCIC

COMPONENT INVOLVED: Valve operator and turbine governor

CAUSE: Mechanical failures

SEQUENCE OF INTEREST: LOFW

ACTUAL OCCURRENCE: HPCI and RCIC found inoperable upon testing

REACTOR NAME: Brunswick 2

DOCKET NUMBER: 50-324

REACTOR TYPE: BWR

DESIGN ELECTRICAL RATING: 821 MWe

REACTOR AGE: 6.1 years

VENDOR: General Electric

ARCHITECT-ENGINEERS: United Engineers & Constructors

OPERATORS: Carolina Power & Light

LOCATION: 3 miles north of Southport, North Carolina

DURATION: 360 h (estimated)

PLANT OPERATING CONDITION: 37% power

TYPE OF FAILURE: Failed to start;
made inoperable

DISCOVERY METHOD: Surveillance testing

COMMENT: Additional information: NSIC 166083 (Brunswick 2, 50-324, LER 81-029, May 5, 1981).