

# PRECURSOR DESCRIPTION AND DATA

NSIC Accession Number: 105540

Date: August 17, 1975

Title: Low Flow Feedwater Line Severed at 6" to 4" Reducer at Quad Cities

The failure sequence was:

1. The reactor was increasing power after startup.
  2. A transfer was being made from the low flow feed regulating valve to the main feed regulating valve.
  3. With both main and low feed regulating valves partially opened, a feedwater vibration alarm was received in the control room.
  4. The operator manually scrammed the reactor because the low flow line showed signs that it was starting to sever.
  5. The feedwater pumps were tripped and the feedwater regulating station was isolated.
  6. Approximately 12,500 gallons of water was spilled; of this 65% was reactor coolant and the remaining 35% was service water.
  7. It is believed the failure resulted from vibration of the feedwater regulating station during the transfer.
  8. RCIC was used to maintain water level control.
- Corrective action:

1. A new 4 x 6 reducer fabricated from more ductile steel was installed.
2. Snubbers were installed to reduce pipe movement.
3. One of the main feedwater valves was replaced with a "drag valve" to provide more control over a wide spectrum of flow conditions.

Design purpose of failed system or component:

The feedwater system provides feedwater to the reactor.

Unavailability of system per WASH 1400:\*

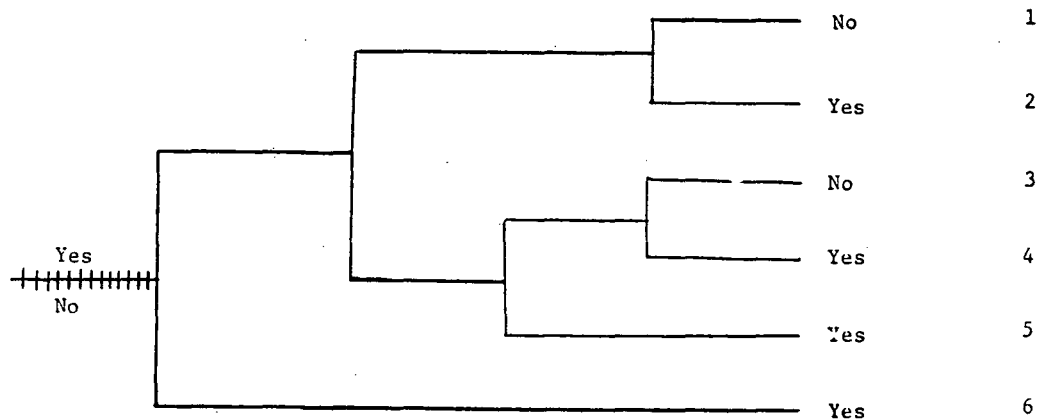
Unavailability of component per WASH 1400:\* Pipe >3"  $1 \times 10^{-10}$ /hr.

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\* Unavailabilities are in units of per demand  $D^{-1}$ . Failure rates are in units of per hour  $HR^{-1}$ .



Loss of Coolant Accident	Reactor Maintained Subcritical	HPCI/RCIC Response Adequate	ADS/LPCI CS Response Adequate	Long Term Core Cooling	Potential Severe Core Damage	Sequence No.
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NSIC 105540 — Sequence of Interest for Low Flow Feedwater Line Severed at 6x4 Reducer at Quad Cities 2

# CATEGORIZATION OF ACCIDENT SEQUENCE PRECURSORS

NSIC ACCESSION NUMBER: 105540

DATE OF LER: August 27, 1975

DATE OF EVENT: August 17, 1975

SYSTEM INVOLVED: Feedwater

COMPONENT INVOLVED: Piping

CAUSE: Pipe rupture

SEQUENCE OF INTEREST: Loss of Coolant Accident

ACTUAL OCCURRENCE: Low Flow Feedwater Line Severed at 6" to 4" Reducer

REACTOR NAME: Quad Cities 2

DOCKET NUMBER: 50-265

REACTOR TYPE: BWR

DESIGN ELECTRICAL RATING: 789 MWe

REACTOR AGE: 3.3 yr

VENDOR: General Electric

ARCHITECT-ENGINEERS: Sargent & Lundy

OPERATORS: Commonwealth Edison

LOCATION: 20 miles NE of Moline, Ill.

DURATION: N/A

PLANT OPERATING CONDITION: Power accension

SAFETY FEATURE TYPE OF FAILURE: (a) inadequate performance; (b) failed to start;  
(c) made inoperable; (d) severed.

DISCOVERY METHOD: Operational Event

COMMENT: