

PRECURSOR DESCRIPTION AND DATA

NSIC Accession Number: 124222

Date: March 28, 1977

Title: Six Main Steam Relief Valves Fail to Lift Properly at Duane Arnold

The failure sequence was:

1. During bench testing of six main steam relief valves failed to lift at the required pressure, four failed to open and the remaining two lifted at elevated pressures.

Corrective action:

The problem was being investigated, however at the time of this report the cause hadn't been resolved.

Design purpose of failed system or component:

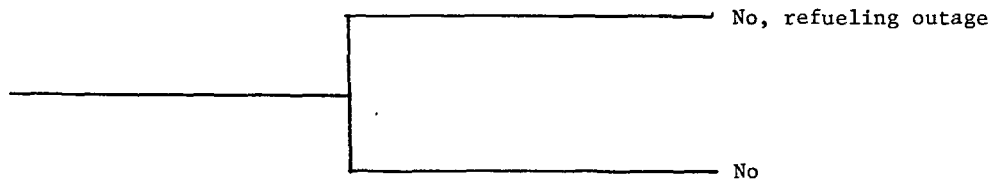
The steam relief valves allow for pressure control.

Unavailability of system per WASH 1400: * -

Unavailability of component per WASH 1400: * $1.0 \times 10^{-5}/D$

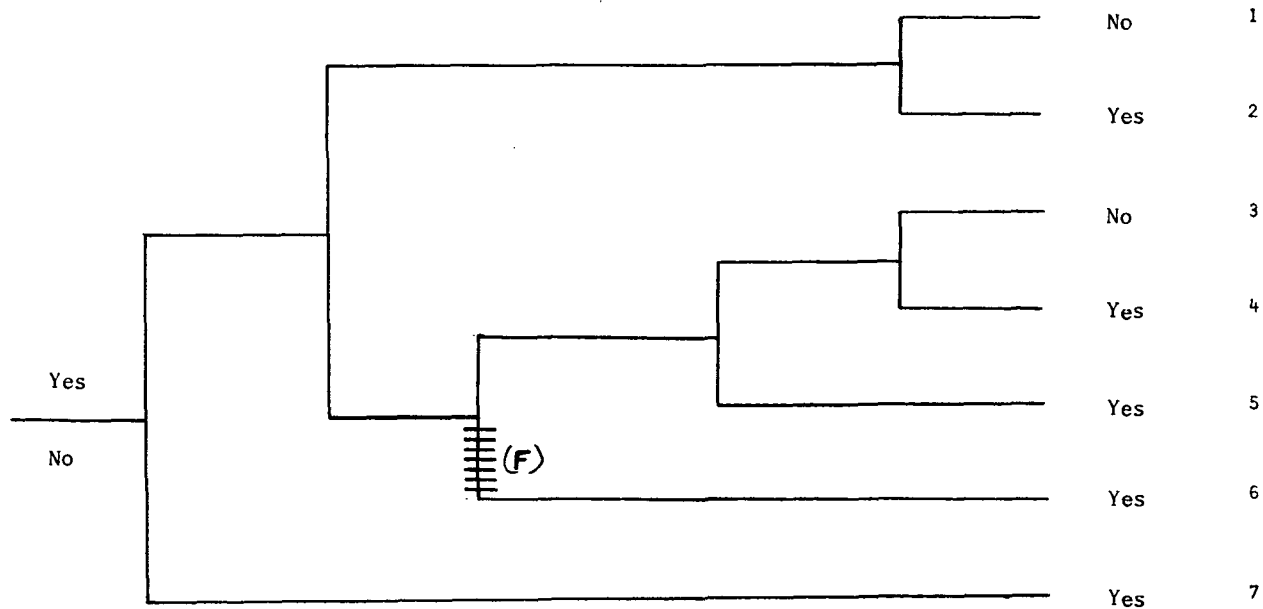
* Unavailabilities are in units of per demand D^{-1} . Failure rates are in units of per hour HR^{-1} .

Bench Testing of 6 Main Steam Relief Valves Was Underway	Four Valves Failed to Open and Two Opened at Elevated Setpoints	Potential Severe Core Damage
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NSIC 124222 -- Actual Occurrence of Six Main Steam Relief Valves Fail to
Lift Properly at Duane Arnold

Loss of Feedwater Flow	Reactor Subcritical	RCIC/HPCI Response Adequate	Automatic Depressurization System Operates	LPCI or CS Response Adequate	Long Term Core Cooling	Potential Severe Core Damage	Sequence No.
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NSIC 124222 - Sequence of Interest for Six Main Steam Relief Valves Fail to Lift Properly at Duane Arnold

CATEGORIZATION OF ACCIDENT SEQUENCE PRECURSORS

NSIC ACCESSION NUMBER: 124222

DATE OF LER: April 2, 1977

DATE OF EVENT: March 28, 1977

SYSTEM INVOLVED: ADS

COMPONENT INVOLVED: Relief Valves

CAUSE: Unknown

SEQUENCE OF INTEREST: LOFW

ACTUAL OCCURRENCE: Six Main Steam Relief Valves Fail to Lift Properly
at Duane Arnold.

REACTOR NAME: Duane Arnold.

DOCKET NUMBER: 331

REACTOR TYPE: BWR

DESIGN ELECTRICAL RATING: 821 MWe

REACTOR AGE: 3.0 yr.

VENDOR: G.E.

ARCHITECT-ENGINEERS: Bechtel

OPERATORS: Iowa Electric Power and Light

LOCATION: Cedar Rapids, Iowa

DURATION: 4883 (a) hours

PLANT OPERATING CONDITION: 0%

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

DISCOVERY METHOD: Surveillance Testing

COMMENT: Four valves failed to open during bench test.