

# PRECURSOR DESCRIPTION AND DATA

NSIC Accession Number: 81523

Date: June 28, 1973

Title: Failure of AFW Pumps to Auto-Start at Turkey Point 4

The failure sequence was:

1. During startup and low power physics testing, the turbine generator control valves opened rapidly and excessively (reason unspecified).
2. As a result of high steam flow and reduced reactor coolant system temperature, safety injection actuated.
3. All three auxiliary feed pumps failed to start due to failure to install 125V DC power supply fuses in the AFW pump auto-start logic circuits.
4. The AFW pumps were manually started.

Corrective action:

The fuses were installed and the auto-start logic circuits were demonstrated to be operable.

Design purpose of failed system or component:

The system provides automatic starting of the AFW pumps on safety injection, steam generator low-low level, loss of voltage on the 4160V busses, and loss of both main feedwater pumps.

Unavailability of system per WASH 1400: \* AFW (start + 8 hours):  $3.7 \times 10^{-5}$

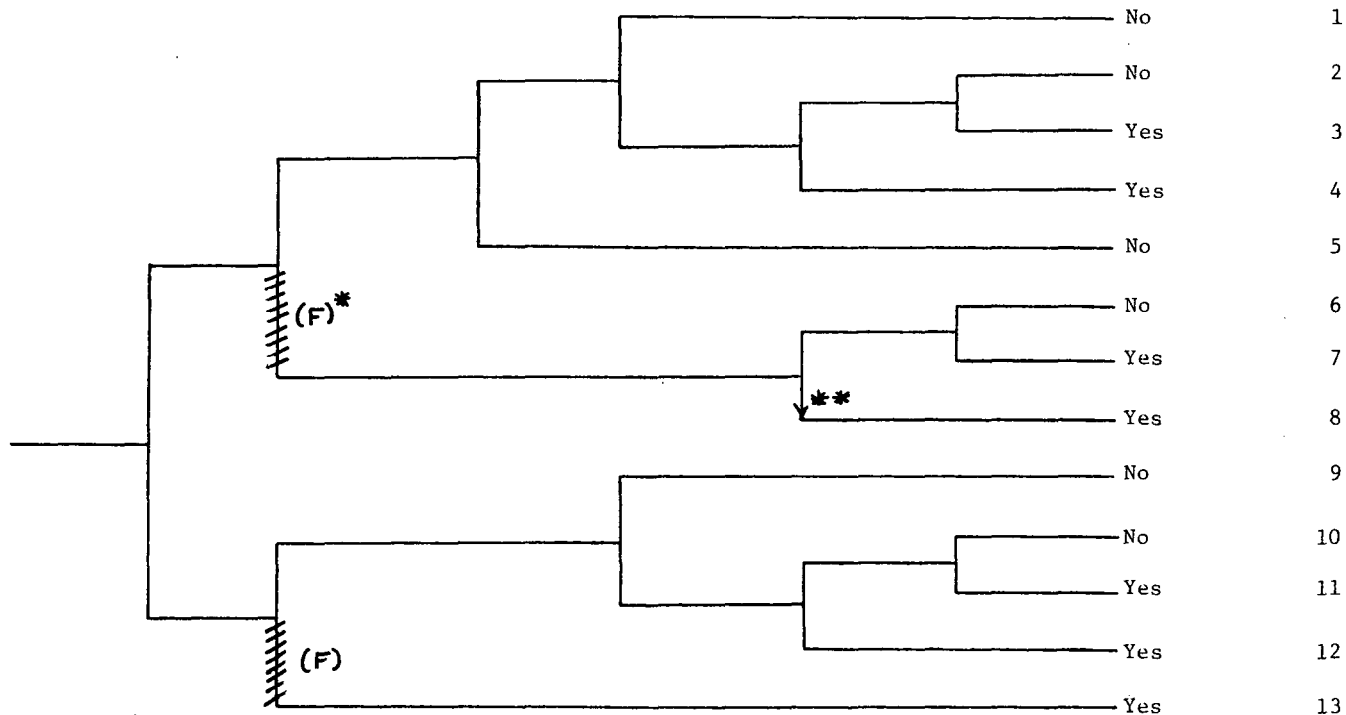
Unavailability of component per WASH 1400: \* Fuse:  $1 \times 10^{-6}/\text{hr}$

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



Loss of Main Feedwater	Reactor Trip	Auxiliary Feedwater and Secondary Heat Removal	PORV Demanded	PORV or PORV Isolation Valve Closure	High Pressure Injection	Long Term Core Cooling	Potential Severe Core Damage	Sequence No.
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NSIC 81523 - Sequence of Interest for Failure of AFW Pumps to Auto-Start at Turkey Point 4

\*Success requires manual start

\*\*Not included in operating procedures

CATEGORIZATION OF ACCIDENT SEQUENCE PRECURSORS

NSIC ACCESSION NUMBER: 81523

DATE OF LER: June 28, 1973

DATE OF EVENT: June 18, 1973

SYSTEM INVOLVED: Auxiliary feedwater

COMPONENT INVOLVED: Fuses

CAUSE: Failure to install

SEQUENCE OF INTEREST: Loss of main feedwater

ACTUAL OCCURRENCE: Turbine/reactor trip and subsequent loss of main  
feedwater

REACTOR NAME: Turkey Point 4

DOCKET NUMBER: 50-251

REACTOR TYPE: PWR

DESIGN ELECTRICAL RATING: 693 MWe

REACTOR AGE: .02 yr

VENDOR: Westinghouse

ARCHITECT-ENGINEERS: Bechtel

OPERATORS: Florida Power and Light

LOCATION: 25 miles South of Miami, Florida

DURATION: 168 hours

PLANT OPERATING CONDITION: At power (low power testing)

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

DISCOVERY METHOD: Operational event

COMMENT: