PRECURSOR DESCRIPTION AND DATA

NSIC Accession Number: 103111

Date: April 19, 1975

Title: Condenser Circulating Water Valves Fail to Open at Oconee 3

The failure sequence was:

1. Due to inadequate procedure, switches which select valve operation for the condenser discharge valves were improperly positioned, preventing discharge valve closure during loss-of-offsite power.
2. During a CCW system gravity and recirculation flow test, three discharge valves failed to reposition. Since the emergency valves are interlocked with the discharge valves, the emergency valves did not open when the discharge valves failed to close.

Corrective action;

1. The operating procedure was revised to specify the required position of the control switches.

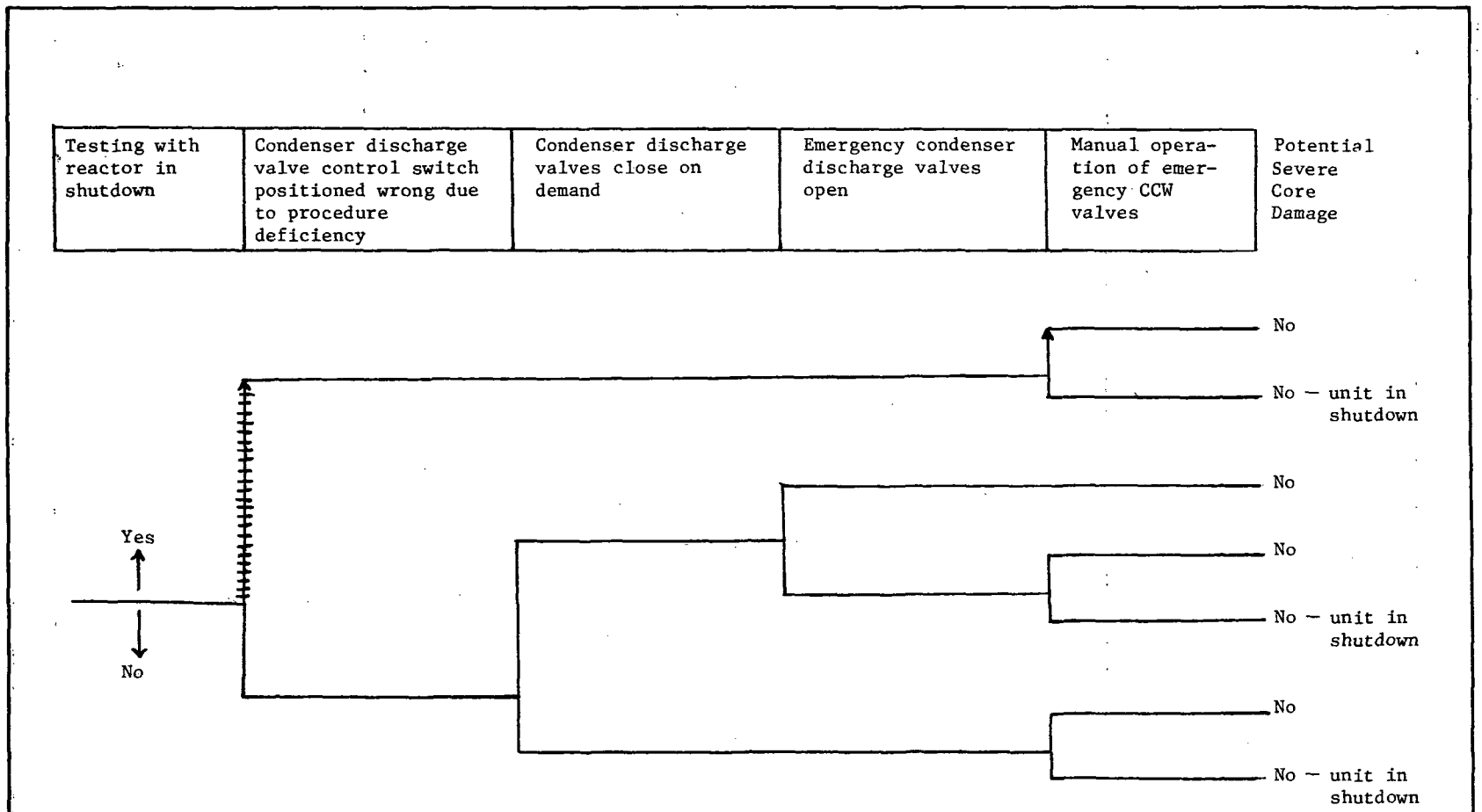
Design purpose of failed system or component:

1. The emergency condenser cooling water system valves are provided to connect the condenser to siphon flow piping which provides an alternate cooling water flow in the event the normal circulating water system is not in operation.

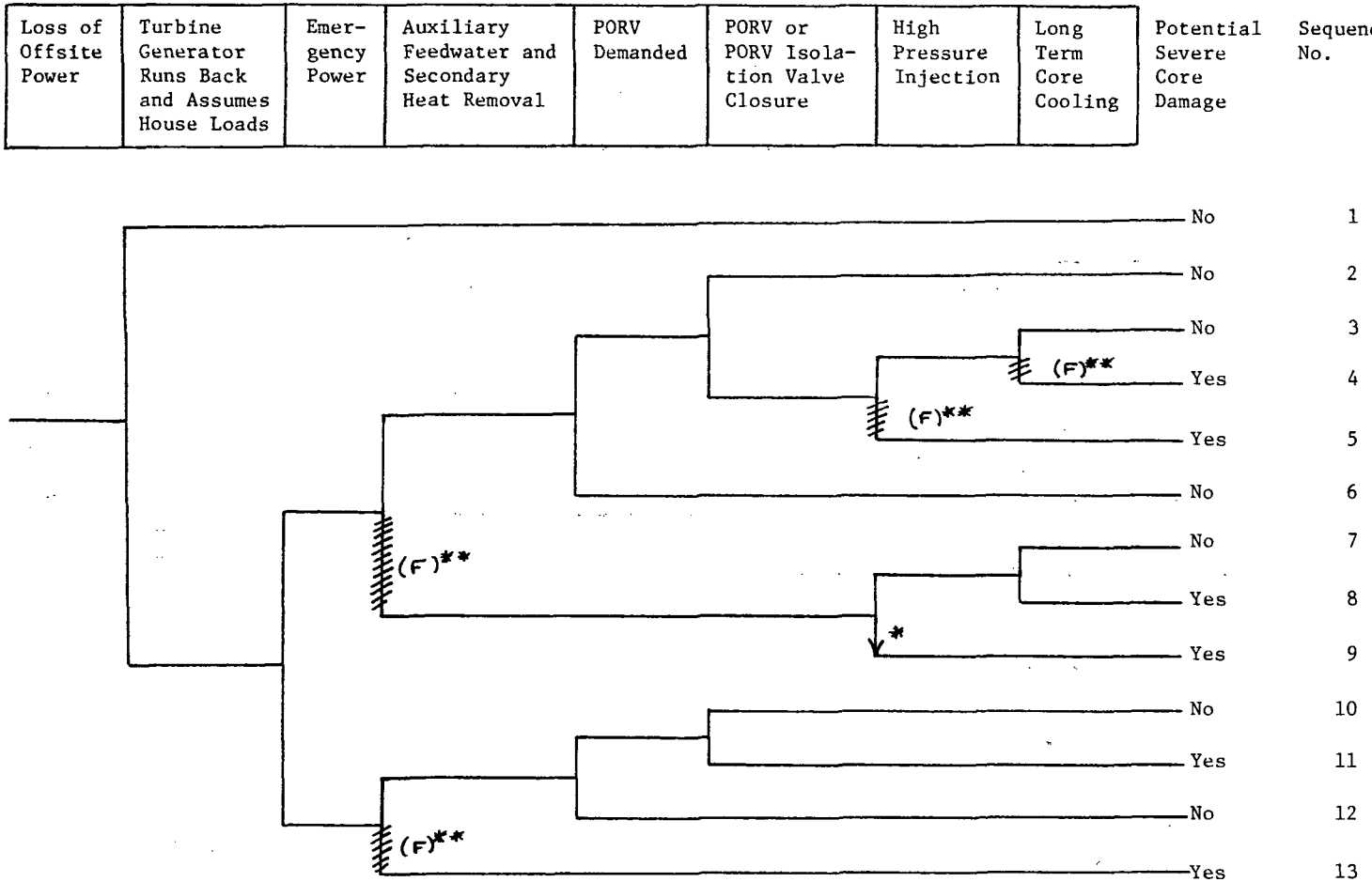
Unavailability of system per WASH 1400:* system is unique to Oconee and hence not considered in WASH-1400.

Unavailability of component per WASH 1400:* general human error of omission: 3×10^{-3}

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



NSIC 103111 — Actual Occurrence for Condenser Circulating Water Valves Failure to Close at Oconee 3
(Emergency valves interlocked to open on closure of normal discharge valves.)



NSIC 103111 — Sequence of Interest for Condenser Circulating Water Valves Failure to Close at Oconee 3

*not included in mitigation procedures.

**success requires manual operation of emergency discharge valves to establish circulating water flow.

CATEGORIZATION OF ACCIDENT SEQUENCE PRECURSORS

NSIC ACCESSION NUMBER: 103111

DATE OF LER: May 30, 1975

DATE OF EVENT: April 19, 1975

SYSTEM INVOLVED: Condenser circulating water

COMPONENT INVOLVED: discharge valves

CAUSE: Procedures did not designate proper position of switches, operator error.

SEQUENCE OF INTEREST: Loss of Offsite Power

ACTUAL OCCURRENCE: During test, the condenser discharge valves failed to close & thus emergency discharge valves did not open.

REACTOR NAME: Oconee 3

DOCKET NUMBER: 50-287

REACTOR TYPE: PWR

DESIGN ELECTRICAL RATING: 887 MWe

REACTOR AGE: 1.6 yr

VENDOR: B&W

ARCHITECT-ENGINEERS: Duke Power Co.

OPERATORS: Duke Power Co.

LOCATION: 30 miles west of Greenville, SC

DURATION: 360(a) hours

PLANT OPERATING CONDITION: Shutdown

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

DISCOVERY METHOD: Test

COMMENT: A common mode failure of the six discharge valves, combined with operator failure to manually open the emergency cooling discharge valves will result in the loss of the ultimate heat sink.