PRECURSOR DESCRIPTION AND DATA

NSIC Accession Number: 63129

Date: March 24, 1971

Title: Scram Caused by Electrical Load Rejection at Lacrosse

The failure sequence was:

1. A fire in the switchyard caused the 69 kv tie line breaker to trip which resulted in a 42.5 MWe load rejection and loss of offsite power.
2. The reactor tripped on high neutron flux and the turbine was manually tripped.
3. The diesel generator started and loaded.
4. The following equipment was lost during the duration of the incident and is reported because of safety significance:
   a. The condenser circulating water pumps tripped on undervoltage. This resulted from the loop condition. (When the main condenser circulating water pumps tripped the blowdown capability of the main condenser was lost.)

(see attached sheet)

Corrective action:

1. Offsite power was restored in 61 minutes.
2. It was planned to install a cross connect valve between the high pressure service water and the low pressure service water. This would keep the heat sink for the component cooling water condensers and the decay heat removal system available.

Design purpose of failed system or component:

1. The main condenser serves as a heat sink for reactor blowdown given the need.
2. The turbine bypass valve allows steam to be dumped directly to the main condenser.
3. Low Pressure Service water provides a heat sink for the component cooling water condenser and the decay heat removal system.

Unavailability of system per WASH 1400:* Loop: 2×10^{-5}/hr

Unavailability of component per WASH 1400:* -

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

The failure sequence was: (continued)

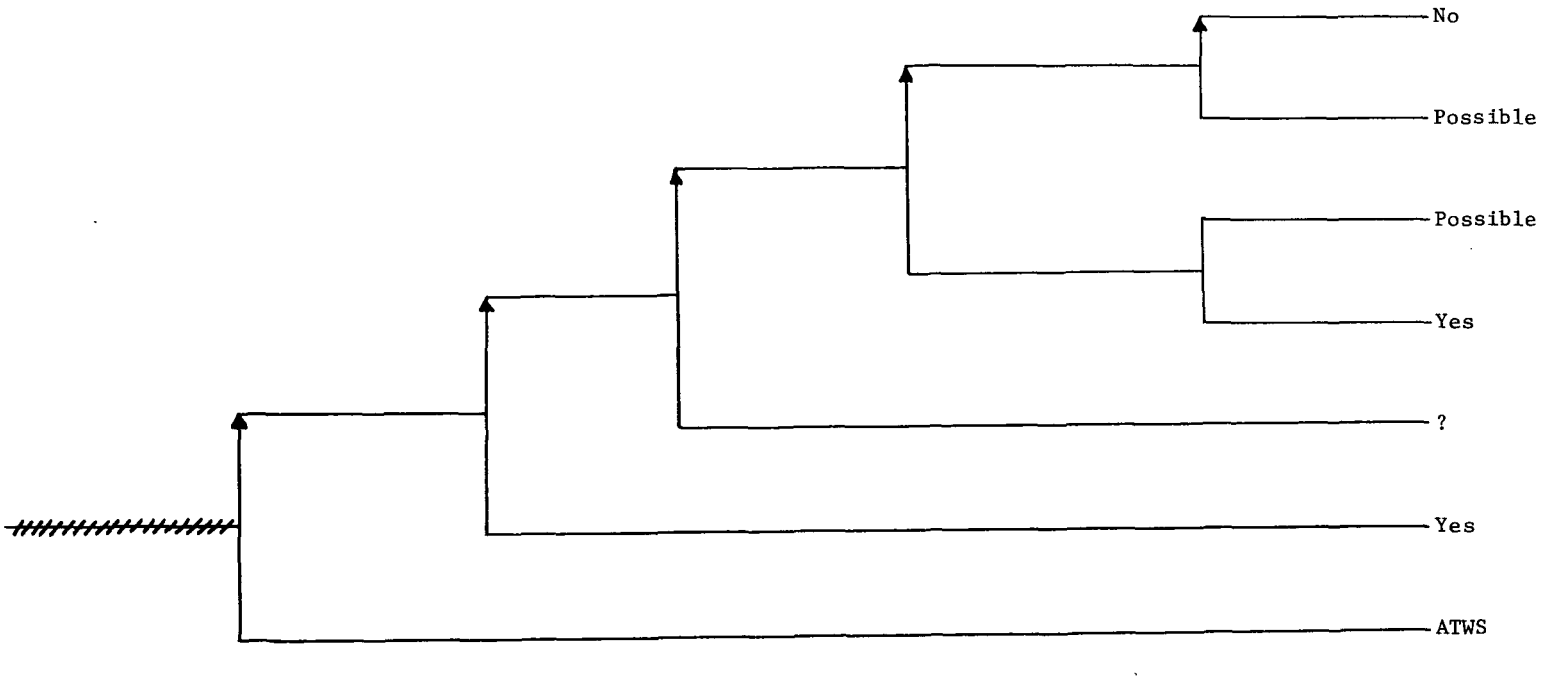
b. The turbine bypass valve failed because of insufficient oil pressure. The pumps providing oil pressure to the valve was supplied from non-essential a.c. power.

5. The inboard MSIVs were manually shut and their bypass valves opened for pressure control.

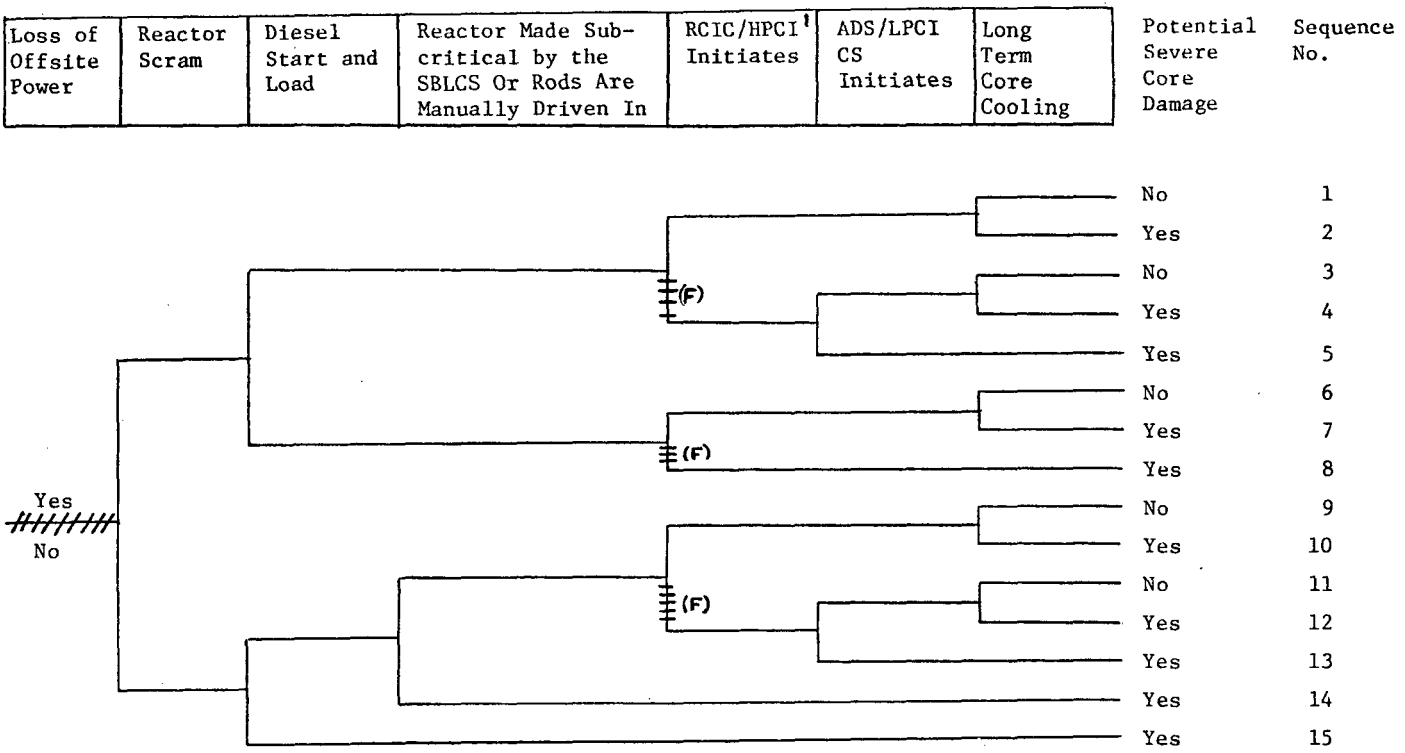
6. The shutdown condenser was manually initiated (same function as an isolation condition).

7. The core spray system was manually initiated.

Switchyard fire caused 69 kv breakers to trip which induced a LOOP condition	Reactor scrammed on high neutron flux. Turbine manually tripped	Diesel start and load	Inboard MSIV manually closed and its bypass valve opend	Shutdown condenser initiated (manually)	Emergency core spray system initiated (manually)	Potential Severe Core Damage



NSIC 63129 — Actual Occurrence of A Scram Caused by Electrical Load Rejection at La Crosse



NSIC 63129 — Sequence of Interest for A Scram Caused by Electrical Load Rejection at La Crosse

[1]La Crosse utilizes shutdown condenser and condensate pumps instead of RCIC and HPCI.

CATEGORIZATION OF ACCIDENT SEQUENCE PRECURSORS

NSIC ACCESSION NUMBER: 63129

DATE OF LER: March 31, 1971

DATE OF EVENT: March 24, 1971

SYSTEM INVOLVED: Electric power

COMPONENT INVOLVED: circuit breakers

CAUSE: Fire in the switchyard.

SEQUENCE OF INTEREST: Loss of offsite power

ACTUAL OCCURRENCE: Scram caused by electric load rejection at La Crosse

REACTOR NAME: La Crosse

DOCKET NUMBER: 50-409

REACTOR TYPE: BWR

DESIGN ELECTRICAL RATING: 50.0 MWe

REACTOR AGE: 4.9 yr

VENDOR: Allis Chalmers

ARCHITECT-ENGINEERS: Sargent & Lundy

OPERATORS: Dairyland Power Corporation

LOCATION: 19 miles S of LaCrosse

DURATION: N/A

PLANT OPERATING CONDITION: 90% power

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

DISCOVERY METHOD: Operational event

COMMENT: —