

PRECURSOR DESCRIPTION AND DATA

NSIC Accession Number: 168548

Date: August 25, 1981

Title: Switchyard Voltage Drops Below Low Limit at Rancho Seco

The failure sequence was:

1. With the reactor in hot shutdown, excessive electrical demand resulted in a reduction in switchyard voltage to 206 kV. This is below the minimum voltage (214 kV) assumed for analysis.
2. The diesel generators were started and provided power to the safety-related buses.

Corrective action:

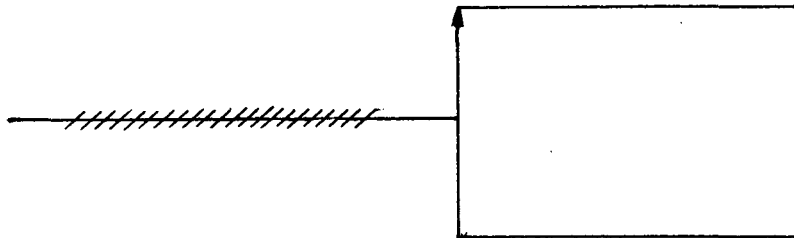
Direct switchyard voltage indications and alarms were to be installed to facilitate control room monitoring of switchyard voltages.

Design purpose of failed system or component:

Offsite power provides the preferred source of power to safety-related loads. The vital buses have 2 power supplies, offsite and emergency diesel generators.

Reactor in hot shutdown and excessive load demand results in reduction of switchyard voltage to below 214-kV minimum voltage	Diesel generators supply safety-related loads
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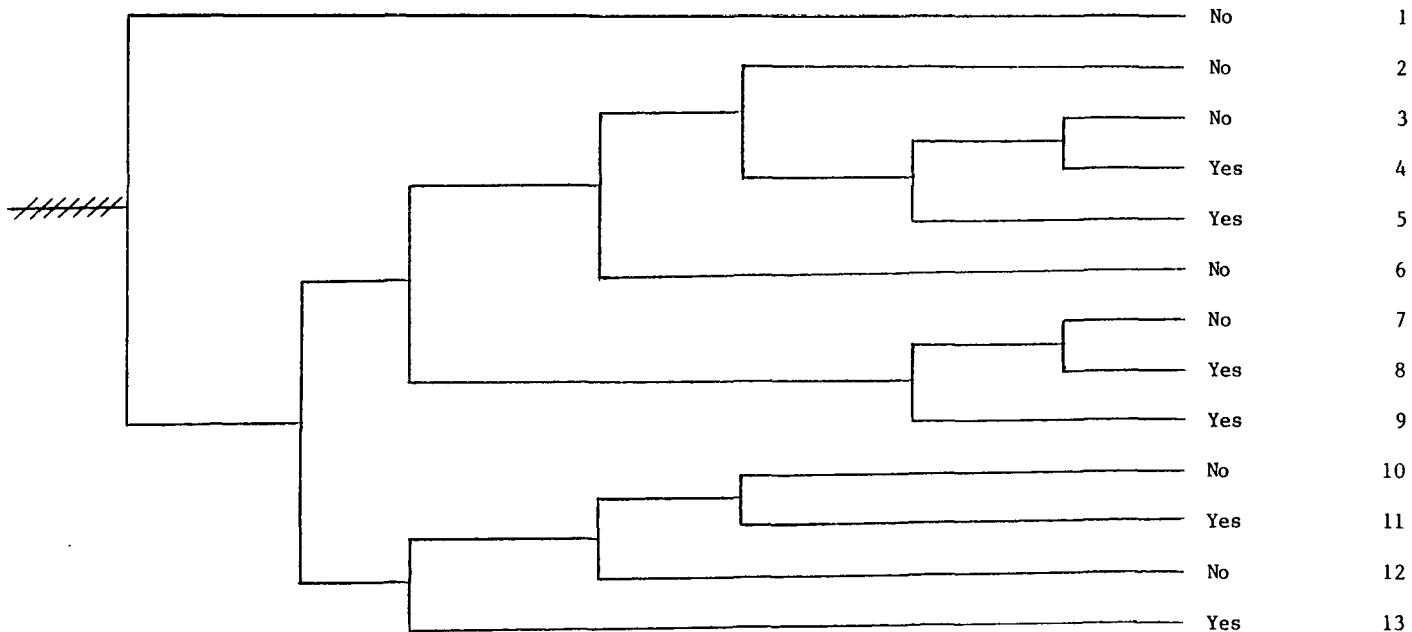
Potential
 Severe
 Core
 Damage



No

Possible - (Use of turbine-driven AFW
 train for natural circulation
 cooling may provide adequate
 core cooling)

Loss of Offsite Power	Turbine Generator Runs Back and Assumes House Loads	Emergency Power	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 168548 - Sequence of Interest for Effective LOOP at Rancho Seco

CATEGORIZATION OF ACCIDENT SEQUENCE PRECURSORS

NSIC ACCESSION NUMBER: 168548

LER NO.: 81-039

DATE OF LER: August 25, 1981

DATE OF EVENT: August 7, 1981

SYSTEM INVOLVED: Offsite power

COMPONENT INVOLVED: Switchyard

CAUSE: Low switchyard voltages due to excessive load demand

SEQUENCE OF INTEREST: LOOP

ACTUAL OCCURRENCE: Effective LOOP

REACTOR NAME: Rancho Seco

DOCKET NUMBER: 50-312

REACTOR TYPE: PWR

DESIGN ELECTRICAL RATING: 918 MWe

REACTOR AGE: 6.9 years

VENDOR: Babcock & Wilcox

ARCHITECT-ENGINEERS: Bechtel

OPERATORS: Sacramento Municipal Utility District

LOCATION: 25 miles SE of Sacramento, California

DURATION: N/A

PLANT OPERATING CONDITION: Shutdown

TYPE OF FAILURE: Inadequate performance;
made inoperable

DISCOVERY METHOD: Operational event

COMMENT: The safety feature equipment called upon was the DGs. They performed as designed and powered the vital buses. They did not experience inadequate performance or inoperability. Also see Accession 167117 (Rancho Seco, 50-312, LER 81-034, July 7, 1981).