

PRECURSOR DESCRIPTION AND DATA

NSIC Accession Number: 158228

Date: July 29, 1980

Title: Loss of Offsite Power at Prairie Island 2

The failure sequence was:

1. With Unit 2 at 100% power a severe electrical storm caused operation of several breakers in the substation.
2. The unit generator separated from the grid and the reactor and reactor coolant pumps tripped.
3. About 8 minutes later, the 345/161/13.8 kV No. 10 transformer locked out.
4. The diesel generators started and provided power to safety-related loads.

Corrective action:

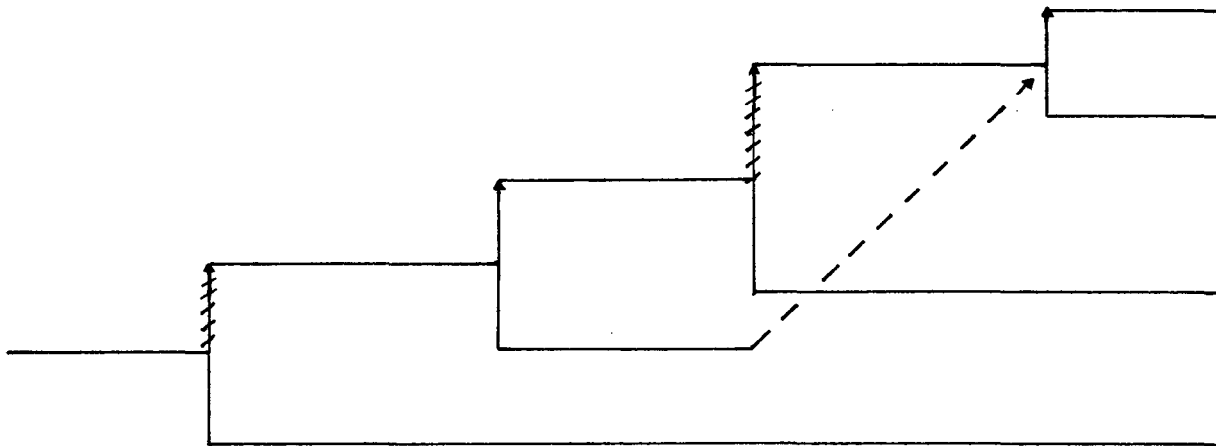
Offsite power sources were restored.

Design purpose of failed system or component:

Offsite power provides the preferred source of power to safety-related loads when the unit generator is not available.

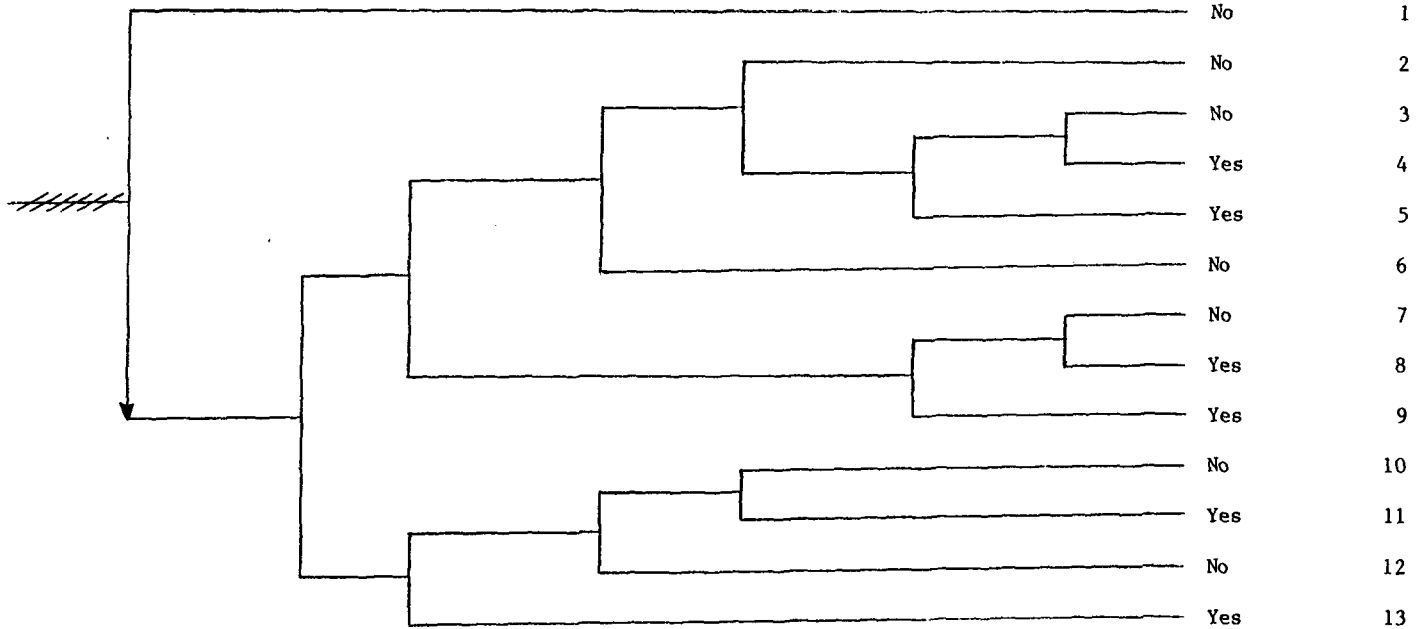
Reactor at 100% power	Severe electrical storm causes operation of several switch-yard breakers	Unit generator separates from grid, reactor and reactor coolant pump trip	#10 transformer lockout results in effective loop and loss of power to safety-related loads	Diesel generators start and provide power to safety-related loads
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Potential Severe Core Damage



NSIC 158228 - Actual Occurrence for Loss of Offsite Power at Prairie Island 2

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 158228 - Sequence of Interest for Loss of Offsite Power at Prairie Island 2

CATEGORIZATION OF ACCIDENT SEQUENCE PRECURSORS

NSIC ACCESSION NUMBER: 158228

LER NO.: 80-020

DATE OF LER: July 29, 1980

DATE OF EVENT: July 15, 1980

SYSTEM INVOLVED: Offsite power

COMPONENT INVOLVED: Switchyard and breakers, transmission lines

CAUSE: Electrical storm

SEQUENCE OF INTEREST: LOOP

ACTUAL OCCURRENCE: LOOP

REACTOR NAME: Prairie Island 2

DOCKET NUMBER: 50-306

REACTOR TYPE: PWR

DESIGN ELECTRICAL RATING: 530 MWe

REACTOR AGE: 5.6 years

VENDOR: Westinghouse

ARCHITECT-ENGINEERS: Pioneer

OPERATORS: Northern States Power Co.

LOCATION: 28 miles SE of Minneapolis, Minnesota

DURATION: N/A

PLANT OPERATING CONDITION: Unit 1 at cold shutdown and Unit 2 at full  
power

TYPE OF FAILURE: Made inoperable

DISCOVERY METHOD: Operational event

COMMENT: