

PRECURSOR DESCRIPTION AND DATA

NSIC Accession Number: 153167

Date: September 26, 1979

Title: Gas Turbine Power Supplies Fail at Oconee

The failure sequence was:

1. With Units 1 and 2 at approximately 100% power, both Keowee Hydro units were removed from service for repair and a Lee Steam Station gas turbine started to provide power to the standby buses.
2. The Lee Station gas turbine repeatedly tripped during operation, resulting in unavailability of power to the standby buses.

Corrective action:

Investigation revealed no reason for the gas turbine's tripping. Procedures were revised to require immediate shutdown of the Oconee Units in the event the Keowee Hydro Units are out of service and the Lee Station Turbine trips.

Design purpose of failed system or component:

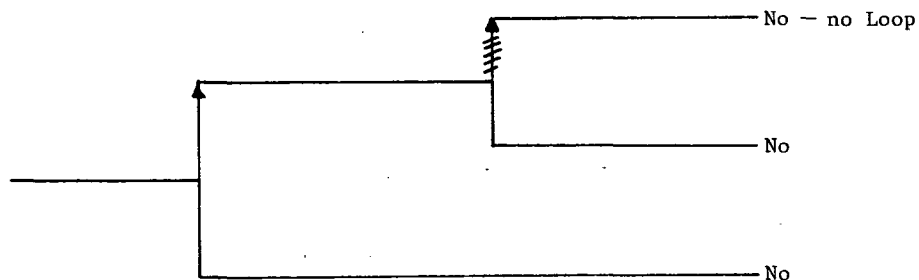
The Lee Steam Station Gas Turbines are used to provide power to the Oconee standby buses in the event the normal source of emergency power, the Keowee Hydro units, are removed from service for maintenance.

Unavailability of system per WASH 1400:* on-site electrical power: $1 \times 10^{-2}/D$

Unavailability of component per WASH 1400:* not considered

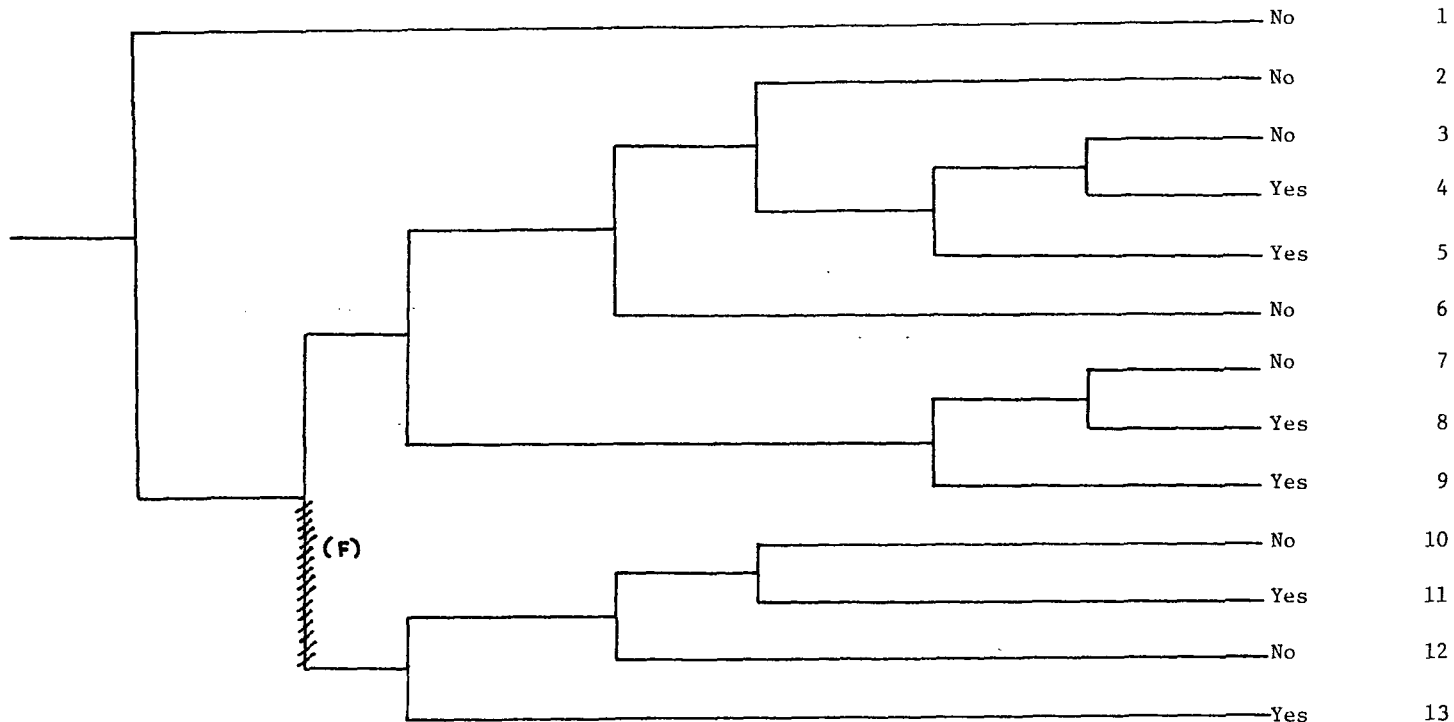
*Unavailabilities are in units of per demand D^{-1} . Failure rates are in units of per hour HR^{-1} .

Reactor at Approximately 100% Power	Keowee Hydro Units Removed from Service for Repair	Lee Steam Station Gas Turbine Repeatedly Trips, Resulting in Repeated Loss of Power to the Standby Buses	Potential Severe Core Damage
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NSIC 153167 — Actual Occurrence for Gas Turbine Power Supplies Fail at Oconee

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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CATEGORIZATION OF ACCIDENT SEQUENCE PRECURSORS

NSIC ACCESSION NUMBER: 153167

DATE OF LER: October 1, 1979

DATE OF EVENT: September 26, 1979

SYSTEM INVOLVED: emergency power

COMPONENT INVOLVED: gas turbine generator

CAUSE: repeated generator trips

SEQUENCE OF INTEREST: loss of offsite power

ACTUAL OCCURRENCE: loss of standby power source during power operation

REACTOR NAME: Oconee 1 and 2 (Oconee 3 in cold shutdown)

DOCKET NUMBER: 50-269 and 50-270

REACTOR TYPE: PWR

DESIGN ELECTRICAL RATING: 887 MWe

REACTOR AGE: 6.4 yr (Oconee 1)

VENDOR: B&W

ARCHITECT-ENGINEERS: DPC/Bechtel

OPERATORS: Duke Power Co.

LOCATION: 30 miles west of Greenville, SC

DURATION: 2 hours

PLANT OPERATING CONDITION: both plants at approximately 100% power

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

DISCOVERY METHOD: operational event

COMMENT: -