

OYSTER CREEK NUCLEAR GENERATING STATION  
FORKED RIVER, NEW JERSEY 08731

Abnormal Occurrence  
Report No. 50-219/74/17

Report Date

March 15, 1974

Occurrence Date

March 7, 1974

Identification of Occurrence

Violation of the Technical Specifications, paragraph 3.7.B, when power operation of the reactor continued with the SB transformer unavailable for service for a time period greater than the Technical Specification limit of 7 days out of any 30 day period. This event is considered to be an abnormal occurrence as defined in the Technical Specifications, paragraph 1.15B.

Conditions Prior to Occurrence

A routine plant shutdown was in progress.

The major plant parameters at the time of the event were as follows:

Power:	Electric, $\approx 100$ MWe
	Reactor, $\approx 300$ MWt
Flow:	Recirculation, $7.5 \times 10^4$ gpm
	Feedwater, $1.2 \times 10^6$ lb/hr
Stack Gas:	$\approx 10,000$ $\mu$ Ci/sec

Description of Occurrence

On Thursday, March 7, 1974, at 1700, as part of the routine plant shutdown procedure, it was required to transfer plant power from the 1B auxiliary transformer to the SB startup transformer. The control room operator on duty operated the closing switch for the S1B breaker with no results. The reactor shutdown was terminated, holding the generator electric power at approximately 100 MWe in order to maintain a power supply path through the 1B auxiliary transformer. Inspection of the S1B breaker revealed that the closing spring was not in the charged position; hence, breaker closure was not possible in either the manual or automatic mode. The failure of the spring to wind has been traced to a failed spring cam switch which closes when the spring unwinds.\* The cam switch closure normally causes a relay, 52Y, to energize which in turn deenergizes

\* See attached reproduction of pertinent portion of General Electric Drawing No. 0223K0173, Sheet 14.

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the S1B breaker closing coil 52X. Contacts from 52X in turn cause the spring winding motor to start and rewind the spring. Since the cam switch contacts failed to cause 52Y to energize, a continuous current was applied to 52X causing it to burn which resulted in freezing the coil auxiliary contacts in their energized position. It is thought at this time that the failure of the spring to rewind occurred following the January 12, 1974 reactor shutdown operation, since this was the last successful operation of the breaker. After replacing the 52X coil and the failed cam switch, successful transfer of load from 1B auxiliary transformer to the SB startup transformer was achieved.

#### Apparent Cause of Occurrence

Component failure was the cause of this occurrence. The failure of the cam switch is presently under investigation.

#### Analysis of Occurrence

The S1B breaker is intended to close automatically when the 1B auxiliary transformer breaker trips. Had the breaker been required to perform this function, it would have resulted in a loss of power to the 1B and 1D 4160 volt switchgear. The 1-2 emergency diesel generator would have initiated in the fast start mode and assumed load on the 1D emergency bus.

#### Corrective Action

At this time, it is thought that this occurrence is an isolated incident. However, all 4160 volt safeguard and 460 volt safeguard switchgear will be checked to see that the closing springs have been properly charged. In addition, the feasibility of installing a closing circuit monitoring system will be explored with the Generation Engineering Department.

#### Failure Data

Manufacturer data pertinent to the failed switch are as follows:

General Electric Company switch  
Part No. 456-A8668-5  
4160V Switchgear

