PSE&G

Public Service Electric and Gas Company P.O. Box 236 Hancocks Bridge, New Jersey 08038

Hope Creek Generating Station

January 5, 1993

U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

Dear Sir:

HOPE CREEK GENERATING STATION
DOCKET NO. 50-354
UNIT NO. 1
LICENSEE EVENT REPORT 90-007-01

This Licensee Event Report is being submitted pursuant to the requirements of 10CFR50.73(a)(2)(iv).

Sincerely,

J.J. Hagan
General Manager -
Hope Creek Operations

LAA/

Attachment
SORC Mtg. 90-051

C Distribution

110056

LICENSEE EVENT REPORT

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
HOPE CREEK GENERATING STATION	0 5 0 0 0 3 5 4	1 OF 4

TITLE (4): Engineered Safety Feature (ESF) Actuation (Reactor Water Cleanup Isolation) due to tripping of Reactor Protection System channel "A" Electrical Protection Assembly

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	NUMBER	REV	MONTH	DAY	YEAR	FACILITY NAME(S)	DOCKET NUMBER(S)
0 5	2 6	9 2	9 0	- 0 0 7	- 0 1	0 1	0 5	9 3		

OPERATING (9) MODE		POWER LEVEL %	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR: (CHECK ONE OR MORE BELOW) (11)			
	1	1 0 0	20.402(b)	20.405(c)	xx 50.73(a)(2)(iv)	73.71(b)
			20.405(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)
			20.405(a)(1)(ii)	50.36(c)(2)	50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text)
			20.405(a)(1)(iii)	50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	
			20.405(a)(1)(iv)	50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)	
			20.405(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
Louis Aversa, Senior Staff Engineer - Technical	6 0 9 3 3 9 3 3 8 6

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE NOTED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRPDS?	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRPDS?
B	JC	BKR	G080	Yes					

SUPPLEMENTAL REPORT EXPECTED? (14)				DATE EXPECTED (15)	MONTH	DAY	YEAR
YES		NO	x				

ABSTRACT (16)

On 5/17/90 at 1353, the control room received indication of a half scram and isolation of the inboard Reactor Water Cleanup (RWCU) isolation valve. The above actions occurred as a result of a loss of the power supply to the Channel "A" Reactor Protection System (RPS) electrical bus when the normal power supply Electrical Protection Assembly (EPA) experienced a spurious trip. The Channel "A" RPS bus was re-powered from its alternate power source, and the half scram and RWCU isolation were reset. Followup troubleshooting by the Maintenance Department could not determine a definitive reason for the trip of the EPA, however, it is suspected that the trip resulted from an EPA performance problem similar to those noted in General Electric Service Information Letter (SIL) 496. Corrective actions include scheduling of modifications to all RPS EPAs as described in SIL-496.

EPA Manufacturer: General Electric
Type: TFJ
Part Number: 184C449P001

PLANT AND SYSTEM IDENTIFICATION

General Electric - Boiling Water Reactor (BWR/4)
Reactor Protection System (EIIS Designation: JC)
Reactor Water Cleanup System (EIIS Designation: CE)

IDENTIFICATION OF OCCURRENCE

Engineered Safety Features (ESF) Actuation (Reactor Water Cleanup Isolation) Due to Tripping Of Reactor Protection System Channel "A" Electrical Protection Assembly

Event Date: 5/17/90
Event Time: 1353
This LER was initiated by Incident Report No. 90-050

CONDITIONS PRIOR TO OCCURRENCE

Plant in OPERATIONAL CONDITION 1 (Power Operation), reactor power 1 %, unit load 1110MWe.

DESCRIPTION OF OCCURRENCE

On 5/17/90 at 1353, control room personnel received indication of a half scram and isolation of the inboard Reactor Water Cleanup (RWCU) isolation valve (HV-F001). The Nuclear Control Operator (NCO, RO licensed) noted that an electrical protection assembly (EPA) for the Channel "A" Reactor Protection System (RPS) normal power supply had tripped. Channel "A" RPS was re-energized from its alternate power source, and the half scram and RWCU isolation were reset. A work request was initiated to troubleshoot the tripped EPA, and the Senior Nuclear Shift Supervisor (SNSS, SRO licensed) initiated a 4 hour non-emergency report per 10CFR50.72 due to the RWCU isolation.

APPARENT CAUSE OF OCCURRENCE

This occurrence was caused by a spurious trip of a Channel "A" RPS bus EPA.

ANALYSIS OF OCCURRENCE

Followup troubleshooting by the Maintenance Department could not determine a cause for the trip of the EPA. Over and under voltage trip setpoints were verified to be within tolerance, and no perturbations from the respective RPS motor generator set were noted. Systems Engineering reviewed the event, and determined that the EPA trip exhibited characteristics of EPA performance problems similar to those identified in GE SIL-496, which was issued in August, 1989. In response to SIL-496, in February, 1990, Systems Engineering initiated a design change to replace existing logic cards in all EPA's at Hope Creek with upgraded logic cards as recommended by GE. This design change is expected to be implemented prior to the end of the stations third refueling outage in early 1991.

The alternate power supply EPA logic cards were replaced with the model number card recommended in GE SIL-496. The new cards have posed a new problem in which the trip lamp will intermittently illuminate and remain on without an actual trip of the EPA. The only method of resetting the lamp is to trip the EPA power supply and then perform the reset. As this method could not be employed on the inservice EPA assemblies without causing half scrams and NSSSS isolations, it has been decided to delay replacement of the logic cards on the normal RPS power supplies until this problem is resolved.

PREVIOUS OCCURRENCES

There have been 3 previous reportable occurrences initiated by tripping of RPS electrical protection assemblies (reference: LERs 86-007, 87-021, and 89-022). In all cases, the EPAs tripped on undervoltage conditions due to either undervoltage setpoint problems or undervoltage conditions on the alternate power supplies. No "spurious" EPA trips have previously occurred a Hope Creek.

SAFETY SIGNIFICANCE

This incident had minimal potential safety significance. Immediately following the EPA trip, RPS channel "A" was re-energized from its alternate power supply. Technical Specifications permit operation in any operating condition for up to 72 hours with one RPS channel inoperable. Had RPS channel "B" been inoperable at the time of this occurrence, a reactor scram would have occurred, and a reactor scram is bounded by UFSAR analysis.

EQUIPMENT / MANUFACTURER DATA

EPA Manufacturer: General Electric
EPA Type: TFJ
Part Number: 184C449P001

CORRECTIVE ACTIONS

In response to SIL-496, Revision 1, Systems Engineering initiated a design change to modify existing logic cards in all EPA's at Hope Creek with upgrade kits as recommended by GE. The design change has been incorporated on the alternate RPS power supplies. The normal RPS power supply EPA logic card replacement is being delayed until the logic card trip lamp deficiency is resolved.

Sincerely,

J. J. Hagan
General Manager -
Hope Creek Operations

LAA/

SORC Mtg. 90-051