PSEG

Public Service Electric and Gas Company P.O. Box 236 Hancocks Bridge, New Jersey 08038-0236

Nuclear Business Unit

JUL 11 1997

LR-N970430

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

Dear Sir:

HOPE CREEK GENERATING STATION
DOCKET NO. 50-354
UNIT 1
LICENSEE EVENT REPORT 97-012-00

This Licensee Event Report entitled "Engineered Safety Feature Actuation: "Single Rod Scram" is being submitted pursuant to the requirements of 10CFR50.73(a)(2)(iv).

Sincerely,

Mark Bezilla
General Manager -
Hope Creek Operations

CEM
SORC Mtg. 97-043

C Distribution
LER File

9707180047 970711
PDR ADOCK 05000354
S PDR

189001

The power is in your hands.

95-2168 REV. 6/94

JUL 11 1997

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Attachment A

The following items represent the commitments that the Public Service Electric and Gas Company is making to the Nuclear Regulatory Commission relative to LER 354/97-012-00:

None

NRC FORM 366 (4-95) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104
EXPIRES 04/30/98

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS MANDATORY INFORMATION COLLECTION REQUEST: 50.0 HRS. REPORTED LESSONS LEARNED ARE INCORPORATED INTO THE LICENSING PROCESS AND FED BACK TO INDUSTRY. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (T-6 F33), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
HOPE CREEK GENERATING STATION	05000354	1 OF 4

TITLE (4)
Engineered Safety Feature Actuation: "Single Rod Scram"

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
										05000
06	13	97	97	-- 012 --	00	07	11	97	FACILITY NAME	DOCKET NUMBER
										05000

OPERATING MODE (9)	1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)			
POWER LEVEL (10)	100	20.2201(b)	20.2203(a)(2)(v)	50.73(a)(2)(i)(B)	50.73(a)(2)(viii)
		20.2203(a)(1)	20.2203(a)(3)(i)	50.73(a)(2)(ii)	50.73(a)(2)(x)
		20.2203(a)(2)(i)	20.2203(a)(3)(ii)	50.73(a)(2)(iii)	73.71
		20.2203(a)(2)(ii)	20.2203(a)(4)	X 50.73(a)(2)(iv)	OTHER
		20.2203(a)(2)(iii)	50.36(c)(1)	50.73(a)(2)(v)	Specify in Abstract below or in NRC Form 366A
		20.2203(a)(2)(iv)	50.36(c)(2)	50.73(a)(2)(vii)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (Include Area Code)
C. E. Manges, Jr., Station Licensing Engineer	(609) 339-3234

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS
B	AA	FU	G080	N						

SUPPLEMENTAL REPORT EXPECTED (14)		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE).	NO		XX	XX	XX

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On June 13, 1997, at 2156, during the weekly Reactor Protection System (RPS) manual scram testing required by the plant Technical Specifications, a single control rod scrammed. Specifically, Control Rod 26-27 scrammed from a full out position (Position 48) to a full in position (Position 00) when a "B1" RPS channel manual scram was inserted. The expected response was a "B" channel half scram and the single rod scram was unexpected. Expected alarms from a single rod scram were received and no thermal limits were exceeded. All other control rods were verified to be in their pre-trip condition. Plant power decreased approximately 3% as a result of the rod insertion. On June 13, 1997, at 2347, a four hour notification was made in accordance with 10CFR50.72(b)(2)(ii). The cause of the scram was a failed open "A" RPS fuse (located in the HCU) supplying power to the "A" side scram solenoid for Control Rod 26-27. The safety consequences associated with this event were negligible. Corrective actions taken included replacing the fuse and retesting the "B1" RPS channel logic. This event is being reported pursuant to 10CFR50.73(a)(2)(iv) as an event or condition that resulted in an Engineered Safety Feature actuation.

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TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

PLANT AND SYSTEM IDENTIFICATION

General Electric - Boiling Water Reactor (BWR/4)
Control Rod Drive System, EIIS Identifier: AA

IDENTIFICATION OF OCCURRENCE

Event Date: June 13, 1997
Problem Report: 970613276

CONDITIONS PRIOR TO OCCURRENCE

The plant was in OPERATIONAL CONDITION 1 (POWER OPERATION) at 100% of rated thermal power at the time of the event. No other structures, systems, or components were inoperable at the time of the event that contributed to the event.

DESCRIPTION OF OCCURRENCE

On June 13, 1997, at 2156, during the weekly Reactor Protection System (RPS) manual scram testing performed in accordance with Procedure HC.OP-ST.SF-0003(Q) and required by the plant Technical Specifications (Table 4.3.1.1-1, Functional Unit 12), a single control rod scrammed. Specifically, Control Rod 26-27 scrammed from a full out position (Position 48) to a full in position (Position 00) when a "B1" RPS channel manual scram was inserted. The expected response was a "B" channel half scram and the single rod scram was unexpected. Expected alarms from a single rod scram were received and no thermal limits were exceeded. All other control rods were verified to be in their pre-trip condition. Plant power decreased approximately 3% as a result of the rod insertion. On June 13, 1997, at 2347, a four hour notification was made in accordance with 10CFR50.72(b)(2)(ii).

This event is being reported pursuant to 10CFR50.73(a)(2)(iv) as an event or condition that resulted in an actuation of an Engineered Safety Feature (ESF).

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TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

APPARENT CAUSE OF OCCURRENCE

The cause of the single rod scram was a failed open "A" RPS fuse located in the Hydraulic Control Unit (HCU) which supplies RPS power to the "A" side scram solenoid for Control Rod 26-27. The cause of the fuse opening was determined to be mechanical failure of the solder joint between the fuse element and the end cap of the cartridge fuse, a Bussman MIN-3. Additional information concerning the fuse design and the failure mode is as follows:

These fuses have a spring loaded indicator that keeps the filament under constant tension and is designed to pop out if the filament were to melt or break. There was no indication of fuse melt which would have been the case had there been an overcurrent condition. The cause of the fuse opening was determined to be a less than adequate solder joint within the fuse housing combined with the constant tension of the spring loaded indicator pin. A workorder records search could not find a workorder that replaced this fuse, so it is likely that the fuse had been installed since plant startup.

The potential generic implications of the event have been evaluated. Two previous instances of failed fuses that caused single rod scrams were identified during the investigation. This history is not considered to be an adverse trend.

ASSESSMENT OF SAFETY CONSEQUENCES

The failure of the fuse did not cause Control Rod 26-27 to be inoperable and would not have prevented the control rod from performing its safety function if required to scram. No thermal limits were exceeded as a result of this event. Therefore, the safety consequences associated with this event were negligible. There was no impact on public health and safety.

PREVIOUS OCCURRENCES

In the past two years, one LER addressed a single rod scram. Specifically, LER 96-026-00 documented an occurrence in which a single control rod scram occurred during turbine valve surveillance testing. The cause of that event was attributed to a failed scram solenoid pilot valve as a result of a defective solenoid base sub-assembly. The corrective actions for that event would not have prevented the single rod scram described in this LER.

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TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

PREVIOUS OCCURRENCES (Continued)

During investigation of this event, a single rod scram that occurred in 1993 was discovered. The 1993 event was not reported in accordance with the requirements of 10CFR50.72 and 10CFR50.73. The specific cause for the failed fuse was not determined, but the corrective actions for that event are not expected to have been different than those for the current event. The 1993 event is also being reported in accordance with 10CFR50.73(a)(2)(iv) as an event or condition that resulted in an actuation of an Engineered Safety Feature (ESF).

CORRECTIVE ACTIONS

1. The fuse was replaced in kind. The fuse type and rating were verified to be correct with plant documentation and the NSSS vendor.

2. The "B1" RPS channel logic was retested after verifying the "A" solenoid had been energized after fuse replacement.

3. The generic implications of the fuse failure were evaluated, and no corrective actions beyond those listed above were deemed to be necessary.