NRC FORM 366 (7-77)

U. S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT

CONTROL BLOCK: [| | | | |] (1) (PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

01 | N C B E P 2 (2) | 0 0 - 0 0 0 0 0 - 0 0 (3) | 4 1 1 1 1 (4) | (5)
LICENSEE CODE 9–14 | LICENSE NUMBER 15–25 | LICENSE TYPE 26–30 | 57 CAT 58

CON'T 01 | REPORT SOURCE L (6) | 0 5 0 - 0 3 2 4 (7) | 0 6 2 8 7 9 (8) | 0 7 2 7 7 9 (9)
60 | 61 DOCKET NUMBER 68 | 69 EVENT DATE 74 | 75 REPORT DATE 80

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

02 While slowly increasing power (preconditioning fuel at approximately 0.1 KW/Ft./hr.),
03 rods 30-23, 30-31, 22-23, and 22-31 were notched from notch 06 to 08. Control rods
04 30-23 double notched to notch 10 and was reinserted within four (4) seconds to notch 8.
05 Approximately 80 minutes later, indication was received that indicated a possible fuel
06 leaker. The flux tilt monitor recorder went from a 30% reading to off scale for approx-
07 imately five minutes, then drifted down to 80%, then back up to approximately 110%.
08 The instrument was set on the 10^{-8} range and the recorder scale was 0-125. (Con't)

09 | SYSTEM CODE: R B (11) | CAUSE CODE: E (12) | CAUSE SUBCODE: X (13) | COMPONENT CODE: C O N R O D (14) | COMP. SUBCODE: Z (15) | VALVE SUBCODE: Z (16)

(17) LER/RO REPORT NUMBER: EVENT YEAR 7 9 | — | SEQUENTIAL REPORT NO. 0 5 6 | / | OCCURRENCE CODE 0 3 | REPORT TYPE L | — | REVISION NO. 0

ACTION TAKEN: X (18) | FUTURE ACTION: X (19) | EFFECT ON PLANT: B (20) | SHUTDOWN METHOD: Z (21) | HOURS (22): 0 0 0 0 | ATTACHMENT SUBMITTED: Y (23) | NPRD-4 FORM SUB.: Y (24) | PRIME COMP. SUPPLIER: N (25) | COMPONENT MANUFACTURER: G 0 8 0 (26)

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

10 The most probable cause of the increase in off gas is a pellet clad interaction caused
11 by exceeding the preconditioned envelope on a rod pull from high power and high flow.
12 Analysis of data indicates that the short duration double notch is most likely the
13 cause. Control rod 30-23 was diagonistically tested and indicated repetitive double
14 notching. This rod was replaced and the replacement was tested satisfactorily. (Con't)

15 | FACILITY STATUS: E (28) | % POWER: 0 8 8 (29) | OTHER STATUS (30): NA | METHOD OF DISCOVERY: A (31) | DISCOVERY DESCRIPTION (32): Operator Surveillance

16 | ACTIVITY RELEASED: G (33) | CONTENT OF RELEASE: N (34) | AMOUNT OF ACTIVITY (35): Power Dependent | LOCATION OF RELEASE (36): Stack

PERSONNEL EXPOSURES
17 | NUMBER: 0 0 0 (37) | TYPE: Z (38) | DESCRIPTION (39): NA

PERSONNEL INJURIES
18 | NUMBER: 0 0 0 (40) | DESCRIPTION (41): NA

LOSS OF OR DAMAGE TO FACILITY (43)
19 | TYPE: Z (42) | DESCRIPTION: NA

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PUBLICITY
20 | ISSUED: N (44) | DESCRIPTION (45): NA

NRC USE ONLY

NAME OF PREPARER A. C. Tollison, Jr. -71 028 PHONE 919-457-9521

LER CONTINUATION -- RO# 2-79-056

Facility: BSEP Unit No. 2 Event Date: 6-28-79

Event Description and Probable Consequences:
Approximately one hour later, the "Process Off-gas Vent Pipe Rod Hi-Hi" alarm on the stack was received and a large increase in SJAE Rod levels and Turbine Bldg. Monitor Rod levels was noticed. RC&T was notified of the possible problem and told to sample the reactor coolant for Iodine and to take air samples in affected buildings. Operations commenced taking OG-6 data. Reactor power was slowly reduced over the next three hours to 57%, where off-gas returned to normal.

Results of Iodine Samples

	6-26-79 (0300)	6-28-79 (0300)
I^{131}	2.67^{-5}	9.27^{-5}
I^{132}	5.84^{-4}	1.52^{-3}
I^{133}	2.86^{-4}	NA
I^{134}	1.21^{-3}	5.19^{-3}
I^{135}	3.52^{-4}	1.28^{-3}

Radiation Level Changes

Stack:
A) 600 cps to 6,000 cps
B) 220 cps to 2,000 cps

SJAE:
A) 8 mr/hr to 80 mr/hr
B) 24 mr/hr to 100 mr/hr

NOTE: The SJAE off gas release rate was approximately 13,000 μci/sec at the time of the incident.

Turbine Bldg. Vent Monitor:

Particulate:	35 cpm to 600 cpm
Iodine:	20 cpm to 30 cpm
Gaseous:	30 cpm to 270 cpm

Results of OG-6 (0443)

	(Fraction of Tech. Spec. Limit)
Instantaneous Limit (Noble Gas)	$2.97e^{-2}$
Gamma Yearly Average Limit (Noble Gas)	$1.05e^{-2}$
Beta Yearly Average Limit (Noble Gas)	$1.30e^{-1}$
Gamma Quarterly Average Limit for 30 day report (Noble Gas)	$2.09e^{-1}$
Beta Quarterly Average Limit for 30 day report (Noble Gas)	$2.57e^{-1}$

Cause Description and Corrective Actions:

The removed rod was disassembled to determine the cause of the double notching. All outer seals were found to be broken, effectively bypassing the throttling of the discharge water on a rod withdrawal. When the rod was withdrawn, its excessive rate of travel would allow it to pass its desired notch before the collet fingers could latch, thus double notching.

The off gas release was a small fraction of the Technical Specification limits for instantaneous releases. The off gas rate of release will be monitored closely during the remainder of the Unit 2 cycle to determine the magnitude of the fuel leak.