NRC FORM 366 (7-77)

U.S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT

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

01 | F L S L S 1 (2) | 0 0 - 0 0 0 0 0 - 0 0 (3) | 4 1 1 1 1 (4) | | (5)
LICENSEE CODE / LICENSE NUMBER / LICENSE TYPE / CAT

CON'T 01 | REPORT SOURCE L (6) | 0 5 0 0 0 3 3 5 (7) | 0 9 0 3 7 9 (8) | 0 9 1 7 7 9 (9)
DOCKET NUMBER / EVENT DATE / REPORT DATE

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

02 While in the cold shutdown condition during Hurricane David, a cable fell
03 across lines into the "B" S/U transformer, causing a lockout on the
04 East Bus and de-energizing the "B" S/U transformer. The "B" A.C. electri-
05 cal system was de-energized, and the "B" Diesel Generator (DG) failed to
06 start. Following an electrical check-out, the "B" DG was manually started.
07 Adequate core cooling was maintained at all times. This is the fifth
08 occurrence of this type (See LERs 335-76-21, 76-44, 77-3 and 77-15).

09 | SYSTEM CODE: E E (11) | CAUSE CODE: A (12) | CAUSE SUBCODE: A (13) | COMPONENT CODE: R E L A Y X (14) | COMP. SUBCODE: A (15) | VALVE SUBCODE: Z (16)

(17) LER/RO REPORT NUMBER | EVENT YEAR: 7 9 | – | SEQUENTIAL REPORT NO.: 0 2 8 | / | OCCURRENCE CODE: 0 1 | REPORT TYPE: T | – | REVISION NO.: 0

ACTION TAKEN: A (18) | FUTURE ACTION: Z (19) | EFFECT ON PLANT: C (20) | SHUTDOWN METHOD: Z (21) | HOURS (22): 0 0 0 0 | ATTACHMENT SUBMITTED: Y (23) | NPRD-4 FORM SUB.: N (24) | PRIME COMP. SUPPLIER: A (25) | COMPONENT MANUFACTURER: S 3 4 5 (26)

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

10 An investigation revealed that a relay in the auto-start circuitry of the
11 "B" DG was mechanically binding. This relay was replaced. An operational
12 test was then satisfactorily completed whereby the "B" S/U transformer
13 (which had been repaired and tested) was intentionally de-energized. The
14 "B" DG was observed to auto-start and loading was verified to occur.

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

16 | ACTIVITY RELEASED: Z (33) | CONTENT OF RELEASE: Z (34) | AMOUNT OF ACTIVITY (35): NA | LOCATION OF RELEASE (36): NA

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

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

NAME OF PREPARER: D. K. James PHONE: (305) 552-3813

7909270570

Additional Event Description and Probable Consequences

While in the cold shutdown condition (Mode 5) during the passage of Hurricane David, a support cable for the tower crane in the Unit 2 construction area fell across lines into the "B" Start-up Transformer. A lockout occurred on the East Bus and the "B" Start-up Transformer was de-energized. The "B" side of the electrical system de-energized with the exception of the "B" DC Bus which was carried by the "B" battery. The "B" Inverter failed to respond but the "D" Inverter remained in service. A blown fuse was discovered later in the "B" Inverter circuit. The "AB" A.C. Busses were lost as they were tied to the "B" side. The "AB" D.C. Bus was lost as it was tied to "B" D.C. Bus, which is assumed to have de-energized as a result of the current transient produced by the event. The SUPS (including instrumentation, annunciation, lighting, communications [except PAX and BELL], NAWAS and Sequence of Events Recorder) was also lost. At this time it was discovered that "B" Diesel Generator was not supplying loads (failed to start). Following a visual and electrical check-out of the "B" Diesel Generator, it was manually started. Adequate core cooling was maintained and verified by starting the "A" LPSI pump and manually controlling Shutdown Cooling flow.

Additional Cause Description and Corrective Action

The "A" Diesel Generator was verified OPERABLE. All of the electrical busses and components lost during event were re-energized. Since the reason for the "B" Diesel Generator not starting automatically on undervoltage was not known, and the potential for a faulted bus or ground was suspected, a thorough check-out was conducted prior to manually starting and loading the "B" Diesel Generator. Two days following the event, a plant staff review and investigation revealed that the K22 relay in the auto-start circuitry of the "B" Diesel Generator was mechanically binding. This relay was replaced. Subsequently, an operational test was satisfactorily completed whereby the "B" Start-up Transformer (which was repaired and tested) was intentionally de-energized, and auto-start and loading of the "B" Diesel Generator was verified to occur.