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June 30, 1989 ST-HL-AE-3158 File No.: G26 10CFR50.73

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

> South Texas Project Electric Generating Station Unit 2 Docket No. STN 50-499 Revision 1 to Licensee Event Report 89-012 Regarding Unplanned Initiation of Fuel Handling Building Exhaust Filtration Due to Radiation Monitor Actuation

Pursuant to 10CFR50.73, Houston Lighting & Power (HL&P) submits the attached Revision 1 to Licensee Event Report 89-012 regarding an unplanned initiation of the Fuel Handling Building exhaust air filtration due to a radiation monitor actuation. This event did not have any adverse impact on the health and safety of the public.

If you should have any questions on this matter, please contact Mr. C. A. Ayala at (512) 972-8628.

G.E. Vaughn G. E. Vaughn by Norten fitus Vice President Nuclear Operations

GEV/BEM/eg

Attachment: South Texas, Unit 2 LER 89-012 Revision 1

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NL.LER89012.U2 - 1A Subsidiary of Houston Industries Incorporated

Houston Lighting & Power Company

ST-HL-AE-3158 File No.: G26 Page 2

cc:

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> Revised 06/16/89 NL.DISR4

NRC form 758 (9.83)	ICENSEE EVENT RE	PORT (LER)	U.S. NU	CLEAR REGULATO APPROVED OMB N EXPIRES: \$/31/80	RY COMMISSION 0. 3150-0104				
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TITLE (4) Unplanned Initiation of Fu	el Handling Build	ing Exhaust F	Itration		. [01]- [-				
Due to a Radiation Monitor	Failure								
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POWER 20.406(a)(1)(i)	50.36(c)(1)	50.73(s)(2)(v)		73.71(c)					
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Charles Ayala - Supervising	Licensing Engin	eer	AREA CODE	9 7 2 -	8 6 2 8				
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DESCRIPTION OF OCCURRENCE:

On April 14, 1989 Unit 2 was in Mode 1 at 19 percent reactor power during ascension to 20 percent power on the main turbing generator. At approximately 2206 hours (CST), a high alarm on Radiation Monitor RT-8035 resulted in an ESF actuation of the Train B Fuel Handing Building (FHB) Heating Ventilation Air Conditioning (HVAC) system. The actuation caused the Train B FHB HVAC system to transfer to the filtered exhaust mode. Train A of the FHB HVAC system was already in the ESF (filtered exhaust) mode prior to the event for performance of surveillance procedure 2PSP03-HF-0001, Train A Fuel Handing Building Exhaust Air Operability.

The actuation resulted from a spike on Radiation Monitor RT-8035 which detected an airborne radiation level of 6.05E-04 micro-curies per cubic centimeter (uCi/cc). The radiation monitor is set to give an "alert" alarm at 5.00E-05 uCi/cc, amd a "high" alarm at 5.00E-04 uCi/cc resulting in an ESF actuation of the FHB HVAC exhaust system trains. The monitor first went into alert alarm and, 18 seconds later, went into high alarm. The high radiation alarm was acknowledged and subsequently cleared in approximately 8 seconds but the alert alarm stayed in until 46 seconds later. At the time the high alarm cleared, the radiation monitor RT-8035 exhibited oscillations from 7.64E-06 uCi/cc to 1.67E-05 uCi/cc while the redundant Radiation Monitor RT-8036 also in the FHB exhaust system remained relatively stable at an average value of approximately 1.03E-06 uCi/cc. These two identical monitors are located in the same area and take samples from the same HVAC duct.

The ESF actuation was reset and Train B FHB exhaust fans were secured. At 2243 hours samples of the FHB exhaust by Health Physics personnel revealed no measurable amounts of airborne radioactivity which would have resulted in the alarm.

Radiation Monitor RT-8035 was declared inoperable at 2300 hours and a work request was initiated to investigate the problem and perform calibration and repair as necessary. The investigation findings were that the carbon filter on the sample inlet to the radiation monitor was clogged and required replacement. Wiring was inspected for loose connections, etc., and found to be in satisfactory condition.

Following replacement of the carbon filter, the radiation monitor detection levels became more stable and reflected levels similar to those of Radiation Monitor RT-8036. In an attempt to reproduce the high alarm condition on RT-8035 by simulating a clogged filter, the sample inlet was throttled but no change in response was observed. Additional attempts were made to reproduce the condition but these were also unsuccessful.

The NRC was notified of the event at 2323 hours on April 14, 1989 pursuant to 10CFR50.72.

LICENSEE	EVENT	REPORT	(LER)	TEXT	CONTINUATION	APPROVED OMB NO.	3150-0104
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U.S. NUCLEAR REGULATORY COMMISSION

CAUSE OF OCCURRENCE:

NRC Form 366A

The root cause of the event is unknown. Initial findings were that the carbon filter on the sample inlet to the radiation monitor was clogged and required replacement but no other abnormalities have been found which could have resulted in the alarm and subsequent ESF actuation. The trend of readings and alarms on RT-8035 during and after the event appear to be characteristic of an actual reading of increased FEB exhaust air radiation. Since no significant activity has been detected by the redundant monitor RT-8036 which samples from the same area of the HVAC duct, it is also possible that RT-8036 has leaking sample lines which result in dilution of the sample. Other possible causes include release of particulate radon daughters from the clogged filter in monitor RT-8035 and an undetected, and unrepeatable, electronic problem.

ANALYSIS OF EVENT:

The FHB exhaust radiation monitors are designed to initiate filtration of the HVAC exhaust air following a fuel handling accident. At the time of this event no spent fuel was present. Therefore, these monitors were not required by Technical Specifications to be operable at that time.

As a result of this event, the FHB HVAC system shifted to the filtered exhaust mode. While unnecessary challenges to Engineered Safety Features are undesirable, this actuation represents a minimal hazard since it could not cause, exacerbate or prevent mitigation of an accident. This actuation had no effect on primary system components or their protective systems. This event did not have any impact on the health and safety of the public.

Unplanned actuation of an Engineered Safety Feature is reportable pursuant to 10CFR50.73(a)(2)(iv).

CORRECTIVE ACTIONS:

Since the cause of this event is not known, no specific corrective actions can be established. Investigative activities performed since the May 15, 1989 report have not identified the cause of this actuation. Further investigation is not expected to yield any additional information.

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ADDITIONAL INFORMATION:

The radiation monitor which caused this event was manufactured by General Atomics, Model 0392-1101.

There has been one previous event reported regarding an ESF actuation due to detection of suspected high radiation (Unit 2 LER 89-004). In that event, on February 6, 1989, an ESF actuation of the Fuel Handling Building HVAC system was reported also due to a high radiation alarm in the Unit 2 Fuel Handling Building Exhaust Air Duct from RT-8035.