

LICENSEE EVENT REPORT (LER)

FACILITY NAME (5) South Texas, Unit 1	DOCKET NUMBER (2) 050004918	PAGE (3) 1 OF 05
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TITLE (4)
Unmonitored Release of Radioactive Effluent Due to a Personnel Error

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)		
MONTH	DAY	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		MONTH	DAY	YEAR	FACILITY NAMES		DOCKET NUMBER(S)
06	07	88	036	000		07	05	88			05000

OPERATING MODE (9) 5

POWER LEVEL (10) 0.00

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more of the following) (11)

<input type="checkbox"/> 20.102(b)	<input type="checkbox"/> 20.405(c)	<input type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> 73.71(b)
<input type="checkbox"/> 20.405(a)(1)(ii)	<input type="checkbox"/> 50.36(e)(1)	<input type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> 73.71(e)
<input type="checkbox"/> 20.405(a)(1)(iv)	<input type="checkbox"/> 50.36(f)(2)	<input type="checkbox"/> 50.73(a)(2)(vi)	OTHER (Specify in Abstract below and in Text, NRC Form 365A)
<input type="checkbox"/> 20.405(a)(1)(vi)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)	
<input type="checkbox"/> 20.405(a)(1)(vii)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)	
<input type="checkbox"/> 20.405(a)(1)(viii)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)	

LICENSEE CONTACT FOR THIS LER (12)

NAME Charles A. Ayala - Supervising Licensing Engineer	TELEPHONE NUMBER 511 2917 21-1816 28
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COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE) NO

EXPECTED SUBMISSION DATE (15)

MONTH	DAY	YEAR

ABSTRACT (Limit to 1,000 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

At approximately 1828 hours on June 7, 1988, with the plant in cold shutdown (Mode 5), an unmonitored release of 1504 gallons of liquid effluent occurred due to an operator (utility - nonlicensed) inadvertently discharging the wrong Waste Monitor Tank (WMT). A subsequent analysis showed the release to be within procedural and Technical Specification requirements. The root cause of the event was personnel error. The responsible individual was counseled, and the incident was reviewed with others involved in radioactive effluent processing. Procedures have been revised to require independent verification of the valve lineup. An investigation into the need for human factors engineering of the related control panels will be performed.

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

DESCRIPTION OF EVENT:

On June 7, 1988, with the unit in cold shutdown (Mode 5), Waste Monitor Tanks (WMT) 1D, 1E and 1F were in recirculation in accordance with the WMT Operations procedure. Two independent surveillance data packages were received at 1815 hours by the Radwaste Control Room for the release of WMT 1E as required by the Liquid Waste Effluent Release procedure. At this time, the Liquid Waste Effluent Radiation Monitor (LWERM) was not operable due to internal contamination of the sample chamber. The Liquid Waste Effluent Release procedure and Technical Specification 3.3.3.10 permit effluent releases to continue with the LWERM inoperable, provided that the following actions are taken prior to the release:

1. At least two independent samples are analyzed in accordance with Technical Specification 4.11.1.1.1, and
2. At least two technically qualified members of the facility staff independently verify the release rate calculations and discharge line valving.

At 1824 hours, the Mechanical Auxiliary Building Roving Operator (MAB Rover) opened the manual isolation valves on the common discharge line in accordance with the procedure. The Radwaste Control Room Operator (RWO) then inadvertently placed the WMT 1D Pump Discharge Valve handswitch in the "Discharge" position instead of the WMT 1E Pump Discharge Valve handswitch, as required by the procedure. At 1828 hours the RWO placed the discharge header three-way valve handswitch in "Discharge", which resulted in a discharge from WMT 1D. After the MAB Rover returned to the Radwaste Control Room, it was discovered that the wrong tank was lined up for discharge. The discharge was terminated at 1835 hours.

A total of 1504 gallons of water from WMT 1D was discharged to the Main Cooling Reservoir. Samples were collected from WMT 1D for analysis at 1856 and 1857 hours. Although these samples were obtained after the discharge had occurred, since the tank had been in continuous recirculation since 0838 hours that day, they were representative of the water that had just been discharged from WMT 1D. Subsequent analysis of the samples met the acceptance criteria of the Liquid Waste Effluent Release procedure.

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

DESCRIPTION OF EVENT (Cont.):

The results of the analysis were as follows:

Integrated Release by Nuclide

	Sample 1		Sample 2	
H-3	2.09E+03	microCi	1.93E+03	microCi
Mn-54	3.02E+03	microCi	1.73E+03	microCi
Co-58	8.60E+01	microCi	5.48E+01	microCi
Zr-95	6.83E+00	microCi	5.69E+00	microCi
Cr-51	2.93E+01	microCi	2.32E+01	microCi
Fe-59	1.98E+00	microCi	not detected	
Co-60	2.32E+00	microCi	1.80E+00	microCi
Nb-95	6.03E+00	microCi	5.11E+00	microCi

The post-release off-site dose calculations for the inadvertent release of WMT 1D were within Technical Specification limits and were as follows:

Liquid Effluent Doses (mrem)

Whole Body: 0.0000
 Highest Organ: 0.0000
 Organ: Adult's GI-Track
 Receptor: little Robbins Slough

The NRC was notified of the event at 0010 hours on June 8, 1988.

CAUSE OF EVENT:

The primary root cause of this occurrence was cognitive personnel error. Although the RWO had an approved procedure at hand, it was inadequately followed. The RWO is a utility-nonlicensed operator.

A contributing factor was the fact that there were three WMT's in recirculation simultaneously, allowing less visual distinction between the operating and non-operating trains. This increased the potential for an error on the part of the operator.

The inoperability of the LWERM created delays in the discharge of the WMT's and was partly responsible for the three tanks being in recirculation at the same time. The inoperability of the LWERM also created the condition, as a result of Technical Specification requirements, that required two independent sample analyses and independent verifications of the release rate calculations and flowpath lineup prior to discharge. These requirements had not been met for WMT 1D.

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

CAUSE OF EVENT(Cont.):

While the liquid waste effluent release procedure included the sampling and verification requirement for a release with the LWERM out of service, the method for verification of the valve lineup was not clear. The WMT operations procedure did not address these requirements.

ANALYSIS OF EVENT:

1504 gallons of liquid waste was discharged from WMT 1D while the Liquid Waste Effluent Radiation Monitor was inoperable, without first completing two sample analyses and independently verifying the flow path lineup. This constituted a violation of Technical Specifications and, as such, is reportable under 10CFR50.73(a)(2)(i)(B).

Subsequent analysis of the contents of WMT 1D by plant personnel determined that the release was within procedural and Technical Specification limits. Therefore, there was no adverse impact to the environment nor to the health and safety of the public.

CORRECTIVE ACTION:

1. The discharge from WMT 1D was terminated immediately upon discovery. Representative samples of the tank contents were obtained, and the required analyses were performed.
2. The RWO received individual counseling concerning the unmonitored release.
3. Personnel involved in the release of radioactive effluents received a briefing on the incident.
4. In order to minimize the potential for valve lineup errors, the WMT operations and liquid waste effluent release procedures have been revised to require independent valve lineup verification for WMT discharges, and to provide additional control of WMT's while in recirculation or discharge. The procedure revision also incorporates an improved method for backflushing the LWERM. This should enhance and increase the availability of the instrument for effluent discharges.
5. An investigation into the need for human factors engineering of the related Radwaste Control Room panels will be completed by September 30, 1988.

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

ADDITIONAL INFORMATION:

A similar event occurred on May 30, 1988, when an RWO inadvertently released effluent from the wrong WMT. On that occasion, the LWERM was in service so there was no violation of Technical Specifications, and the incident was not reportable to the NRC. Corrective actions for that event were in progress but had not been completed when the event described in this LER occurred.

HL&P is conducting a separate investigation into the problem of inoperability of the LWERM.

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The Light company

Houston Lighting & Power

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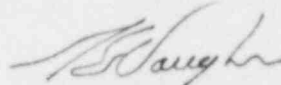
July 5, 1988
ST-HL-AE-2700
File No.: G26
10CFR50.73

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

South Texas Project Electric Generating Station
Unit 1
Docket No. STN 50-498
Licensee Event Report 88-036 Regarding an Unmonitored
Release Of Radioactive Effluent Due to a Personnel Error

Pursuant to 10CFR50.73, Houston Lighting & Power (HL&P) submits the attached Licensee Event Report (LER 88-036) regarding an unmonitored release of radioactive effluent due to a personnel error. 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
Vice President
Nuclear Plant Operations

GEV/RSS/pw

Attachment: Licensee Event Report 83-036
Regarding an Unmonitored Release of
Radioactive Effluent Due to a
Personnel Error

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cc:

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