

GULF STATES UTILITIES COMPANY



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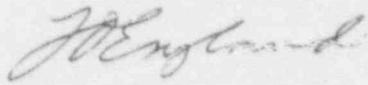
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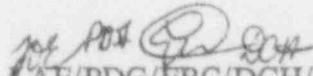
Gentlemen:

River Bend Station - Unit 1
Docket No. 50-458

Please find enclosed Licensee Event Report No. 92-020 for River Bend Station - Unit 1. This report is submitted pursuant to 10CFR50.73.

Sincerely,


for W.H. Odell
Manager - Oversight
River Bend Nuclear Group


LAE/PDG/FRC/DCH/EMC/kvm

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PDR ADD.X 05000458
S PDR

Handwritten initials/signature

cc: U.S. Nuclear Regulatory Commission
611 Ryan Plaza Drive, Suite 400
Arlington, TX 76011

NRC Resident Inspector
P.O. Box 1051
St. Francisville, LA 70775

INPO Records Center
1100 Circle 75 Parkway
Atlanta, GA 30339-3064

Mr. C.R. Oberg
Public Utility Commission of Texas
7800 Shoal Creek Blvd., Suite 400 North
Austin, TX 78757

Department of Environmental Quality
Radiation Protection Division
P.O. Box 82135
Baton Rouge, LA 70884-2135
ATTN: Administrator

LICENSEE EVENT REPORT (LER)

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

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MVB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND SUPPORT, WASHINGTON, DC 20503.

FACILITY NAME (1) RIVER BEND STATION	DOCKET NUMBER (2) 05000 458	PAGE (3) 1 OF 7
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TITLE (4) **IMPROPERLY CONTROLLED RADIOACTIVE MATERIAL RESULTS IN CREATION OF HIGH RADIATION AREA**

EVENT DATE (5)			LER NUMBER (6)			REPORT NUMBER (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
10	01	92	92	020	00	11	03	92		05000
									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)	79	<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.405(c)	<input type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> 7.1(b)					
		<input type="checkbox"/> 20.405(a)(1)(i)	<input type="checkbox"/> 50.36(c)(1)	<input type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> 7.1(c)					
		<input type="checkbox"/> 20.405(a)(1)(ii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(vi)	<input type="checkbox"/> OTHER					
		<input type="checkbox"/> 20.405(a)(1)(iii)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(vii)(A)	(Specify in Abstract below and in Text, NRC Form 366A)					
		<input type="checkbox"/> 20.405(a)(1)(iv)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(vii)(B)						
<input type="checkbox"/> 20.405(a)(1)(v)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(x)								

LICENSEE CONTACT FOR THIS LER (12)

NAME L.A. ENGLAND, DIRECTOR - NUCLEAR LICENSING	TELEPHONE NUMBER (include Area Code) (504) 381-4145
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COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRRDS

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE)	<input checked="" type="checkbox"/> NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
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ABSTRACT (Lim.: to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On 10/01/92 radwaste and radiation protection (RP) personnel were segregating trash on the 106 ft. elevation of the radwaste building. The workers noted that their pocket dosimeters were reading higher than the area dose rates should have warranted, 10 mR for the decontamination workers and 5 mR for the RP technician. The RP technician performed an investigative survey of the area and located a bag (containing valve packing) which read 14000 mR/hr on contact and 270 mR/hr at 18 inches. The bag was located in a metal storage container. The 220 mR/hr reading at 18 inches exceeds 100mR/hr; therefore, an unposted high radiation area (HRA) existed in the radwaste building, 106 ft. elevation, from 9/30/92 to 10/01/92. This LER is submitted pursuant to Technical Specification 6.12.1 to document the unposted HRA.

The primary root cause of this incident was failure to properly perform a radiological survey and control radioactive materials. The technician surveying the trash out of the C-Zone at the SOP area apparently failed to perform a proper survey of the bag. He then tagged the bag as being of little to no radiological significance (< 2mR/hr) and it was subsequently handled and considered low level waste until the time of discovery.

The dose records of personnel who were possibly exposed to these bags were reviewed and TLDs were read. The results confirmed that no overexposures occurred as a result of this event.

**LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION**

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH, IMNB 7714, 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.

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

REPORTED CONDITION

On 10/01/92 radwaste and radiation protection (RP) personnel were segregating trash on the 106 ft. elevation of the radwaste building. The workers noted that their pocket dosimeters were reading higher than the area dose rates should have warranted, 10 mR for the decontamination workers and 5 mR for the RP technician. The RP technician performed an investigative survey of the area and located a bag (containing valve packing) which read 14000 mR/hr on contact and 220 mR/hr at 18 inches. The 220 mR/hr reading at 18 inches exceeds 100mR/hr; therefore, an unposted high radiation area (HRA) existed in the radwaste building, 106 ft. elevation, from 9/30/92 to 10/01/92. This LER is submitted pursuant to Technical Specification 6.12.1 to document the unposted HRA.

INVESTIGATION

When discovered on 10/01/92, the bag in question was placed in the sludge tank room and controlled as high radiation material. The radwaste 106' elevation was surveyed and a second bag was located in the same container reading 800 mR/hr on contact which had no radioactive material tag attached.

Followup surveys were performed in the suspect areas where material was stored, including the remainder of the radwaste building, turbine building, hot machine shop, and outside storage areas. These surveys uncovered a third and fourth bag that were mislabeled. These bags were located in the hot machine shop. The contact dose rate on the third bag was 80 mR/hr. A radioactive material tag signed by an RP technician on 09/01/92 was attached to the bag. The tag indicated dose rates to be less than 2 mR/hr. The bag contained a choker that was tagged by a different (contract) RP technician indicating a contact dose rate of 100 mR/hr. The fourth bag had a contact dose rate of 100 mR/hr and was not tagged. It contained various decontamination materials. Dose rates at 18 inches from both bags were less than 100mR/hr, therefore, their presence did not result in additional unposted high radiation areas.

GSU reconstructed the sequence of events that led to the discovery of the unposted HRA. The following narrative is based upon interviews with involved personnel, inspection of the bag found in the radwaste building, and a review of plant documentation.

On 9/03/92, valve 1B33*MOV23A, located in the drywell at the 90' el. was scheduled to be repacked. Radiation work permit (RWP) 92-3078 was used for this evolution. This valve was located inside a posted very high radiation area (VHRA)/contamination zone (C-Zone). The C-Zone exit/step-off pad (SOP) was located at the drywell 131' airlock area. The airlock was used for access to the drywell during this time period.

Pre-work survey data on valve 1B33*MOV23A indicated contact radiation levels of 600 mR/hr (gamma) and non-detectable (ND) (beta). Whole body dose rates in the working area were up to 260 mR/hr. General area dose rates were 80-120 mR/hr (gamma). Contamination levels were up to 10 mRad/100 sq. cm. This survey

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

was performed at 0730 on: 09/03/92.

This valve was leaking, but was not known to have been leaking prior to pressurization for heat up following RF-4 and no detectable levels of beta radiation were measured on the valve. Therefore, RP personnel expected the packing would not create a significant radiation hazard, unlike packing in primary system valves which leak for extended periods of time. Dressout requirements and protective measures were established based on expected conditions, including a wet work area created by the leaking valve. A second SOP was not set up at the work area due to the limited number of personnel accessing the drywell during this time period.

Two mechanics entered the drywell to repack valve 1B33*MOV23A at 1145 on 9/3/92. One RP technician was providing coverage. Dress requirements for this entry were single PCs, plastics and a respirator. The RP technician surveyed some of the initial rings of packing being removed from the valve. Radiation levels on this packing was 60mR/hr gamma, 100 mR/hr beta, with contamination levels of 100,000 dpm/100 sq. cm.

The RP technician had additional duties to perform while in the drywell causing him to leave the valve work area. During this time, the mechanics continued to remove all but approximately the last ring of packing. All removed packing material was placed in the same red bag and placed on the adjacent recirculation pump platform. The mechanics then exited the drywell due to heat stress considerations. The mechanics did not remove the red bag of packing from the work area as required by the RWP since additional packing remained in the valve (approximately 1 ring). **NOTE:** Air data for this entry indicated < .25 maximum permissible concentration fraction (MPCF). Due to standing water in the stuffing box, valve and packing design (i.e., 3 sets of packing with a deep stuffing box), higher activity packing left in the valve was not detected during the initial packing removal.

Due to high ambient temperatures, heat stress considerations, available radiological survey data and the fact that there was standing water in the stuffing box, the RP foreman deleted the respirator requirement for the next entry. Face shields however, were required to prevent facial contamination. This assessment was discussed with and approved by the RP Supervisor. The next team of mechanics entered the drywell at 1406 to remove the last ring of packing and complete repacking of valve 1B33*MOV 23A. A different radiation protection technician also entered the drywell to start an air sampler for 1B33*MOV 23A repack and to provide RP coverage for another group of mechanics working on valve 1B33*MOV 23B. The last ring of packing was removed from 1B33*MOV 23A and placed in a clear bag along with tags and small clear plastic bags which had contained the new packing. This bag was moved approximately 3 to 5 feet away from the valve and was not surveyed by the RP. The mechanics then started installation of the new packing, but exited the drywell before completing this task due to expiration of their stay time and torn plastic protective clothing. Both mechanics were highly stressed due to elevated temperatures and as a result did not remove the waste during their exit.

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ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNRB 7714), 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.

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

These mechanics' work activities resulted in both of them receiving minimal uptakes of radioactive material. Air data for the entry however, indicated < .25 MPCF. A radiological discrepancy report (RDR) was initiated and an investigation into the uptakes was undertaken. Due to the unexpected uptakes of radioactive material received by these mechanics, the RP technician that provided coverage on the first entry re-entered the drywell to find and survey the last ring of packing removed from the 1B33*MOV23A. The mechanics who made the first entry also re-entered to finish repacking the valve. The respirator requirement was reinstated due to the previous uptakes.

The RP technician performed a verification survey on the red bag containing what he thought was the last ring of packing. The survey revealed a dose rate of 800 mR/hr gamma, 1000 mR/hr beta. The clear bag that actually contained the last ring of packing was also on the platform, but was not identified or surveyed, probably due to the high ambient radiation levels in the area. When the mechanics left the area they were highly fatigued due to the working conditions and subsequently did not remove material from the work area.

A final crew of two mechanics and a contract RP technician entered the drywell at 2225 to torque the packing gland on 1B33*MOV23A and remove all tools and trash from the work area. Tools were surveyed out of the C-Zone at the 131' el. of the reactor building (RB) for return to the tool room and the trash, which included all packing, was placed in the trash receptacle at the SOP area. The waste bag from the receptacle at the SOP containing the packing material was tagged and initialed by the RP technician on 09/04/92. The radioactive material tag stated the dose rates were < 2 mR/hr. This failure to properly survey the bag resulted in the creation of the unposted HRA. The actual dose rate on the bag was 14000 mR/hr.

Bags from this exit area, including the one bag of trash containing the packing, were then moved to the fuel building 113' elevation laydown area. They were subsequently moved to the fuel building 95' truck bay and later on 09/08/92 were moved to the radwaste building on a farm wagon under RP escort. Upon arrival at radwaste, the bag containing the packing was stored in the oil storage room along with various other materials. The bag apparently remained in the room until 09/30/92. According to radwaste and RP personnel, no work was performed in the oil storage room from 09/08/92 to 09/30/92. On 09/30/92, the bag was moved to a staging area adjacent to a radwaste shipping container located outside the compactor room. The bag was moved based on the identified dose rates of less than 2 mR/hr indicated on the tag.

During the day shift on 09/30/92, some of the bags that were staged for compacting were not processed. At the end of the shift the remaining bags, including the one containing the packing, were left on the top of the "to be processed" container. During the morning of the next day a decision was made not to compact any additional waste. At this time the bags that were sitting on top of the container were placed inside for future processing.

Later during this shift, radwaste and radiation protection (RP) personnel were segregating trash on the 106 ft. elevation of the radwaste building. The workers noted that their pocket dosimeters were reading higher than the area dose rates should have warranted, 10 mR for the decontamination workers and 5 mR for the RP

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TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNRB 77-4), 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.

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technician.

The RP technician performed an investigative survey of the area and located a bag in a container reading 14000 mR/hr on contact and 220 mR/hr at 18 inches.

The dose records of personnel who were possibly exposed to these bags were reviewed and TLDs were read to ensure that no over exposures had occurred. The TLD readings for the quarter and the year indicated no overexposures for all station personnel.

Following discovery of the improperly controlled bags, the bags were opened and the contents identified. The 14000 mR/hr bag contained valve packing and paperwork indicating it had come from the 1B33*MOV23A valve. The 800 mR/hr bag contained de-watered resin samples which were individually tagged and bagged and then placed in a larger bag which had not been tagged. The de-watered resin samples had been bagged by a contractor, who inadvertently removed them from the process area with trash.

ROOT CAUSE

The primary root cause of this incident was failure to properly perform a radiological survey and control radioactive materials. The technician surveying the trash out of the C-Zone at the SOP area apparently failed to perform a proper survey of the bag. He then tagged the bag as being of little to no radiological significance (< 2mR/hr) and was subsequently handled and considered low level waste until the time of discovery.

Factors that may have contributed to this event or could have prevented it are as follows:

- The technician who entered the area to investigate the possible cause of the uptakes was not sufficiently briefed as to where the packing was placed. He was understandably mistaken in thinking that the red bag which he had previously surveyed, that now contained more discarded packing, was all of the packing, including the last ring.
- Another technician covering the transport of tools and trash from the immediate work area apparently did not survey the bags containing the packing material, possibly relying on prior survey data. He then improperly dispositioned the waste as general SOP trash.

A review of previous LERs revealed no similar events concerning the creation of unposted HRAs due to improperly controlled radioactive materials.

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TEXT CONTINUATION

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CORRECTIVE ACTION

As immediate corrective action, GSU placed the bag in the sludge tank room and controlled it as high radiation material. Additional surveys revealed three other bags having high dose rates, but these did not result in the creation of additional HRAs.

The dose records of personnel who were possibly exposed to these bags were reviewed and thermoluminescent dosimeters (TLDs) were read to ensure that no overexposures had occurred. TLD readings for the quarter and the year indicated that no overexposures occurred for all RBS personnel. Extremity dose assessment and assignment of dose was made to the two craftsmen who removed the last ring of packing. Dose to the extremity was 2000 mR based on the mechanics' insistence that they handled the packing for ten minutes each. Dose assessment and assignment was also made for the two decontamination workers who transported the packing bags. The dose calculated is 354 mRem whole body dose based on them carrying the bags on their backs.

GSU will ensure that all RP personnel understand the hazards associated with packing removed from highly contaminated systems. Existing procedures and guidance will be evaluated for adequacy to assure that proper RP coverage is provided for all packing removal activities and to provide for adequate surveys of packing during the removal process. Procedures and guidance will be revised or developed as appropriate.

The results of this investigation will be incorporated into RP and Maintenance continuing training to emphasize proper handling of radioactive material and effective communications during performance of maintenance in the radiologically controlled area (RCA).

Surveys of RW 106' material laydown area will be performed on an increased frequency with a radiation detector having an audible response. Additionally, survey mapping for the radwaste 106' was increased from monthly to weekly.

Surveys of bags (trash and PCs) at laydown areas will be conducted with a radiation detector with audible response, to quickly identify potential radiation problems.

Trash from work sites inside C-Zones will not be placed in trash bins located at the SOP, these are intended for protective clothing and associated PC trash (i.e., tape, booties etc.).

Protective clothing, trash and material removed from contaminated areas will be tagged by RP upon removal from the zone or transported under RP control within the radiologically controlled area to a location that allows for proper assessment of the radiological hazards of the material. This will allow RP to ensure that:

- The material is adequately packaged.

**LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION**

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REG. IS 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), 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.

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- The radiological hazards have been identified.
- The material will be properly dispositioned.
- All other requirements depicted in radiation protection procedures regarding radioactive material packaging, tagging, transport and storage are met. Unless otherwise specified by RP or the RWP requirements, removal of tools and measuring and test equipment (M&TE) from C-Zones will be allowed without RP assistance, provided they are properly packaged and transported to a designated area (typically the hot tool room laydown area).

Additional long term corrective action will be initiated based on consideration of suggestions from the following:

- HPES evaluation
- Communication between Radiological Programs and Radwaste
- The Radiological Programs Enhancement Committee

All Radiation Protection personnel will be trained by Radiation Protection Supervision as to the intent of certain precautionary statements placed in section procedures regarding the following:

- The tagging of material that presents a significant radiological hazard.
- The presence of accumulated highly radioactive material can sometimes pose significant radiation hazards.
- The presence of highly radioactive debris may be difficult to detect when performing radiation surveys where high ambient radiation levels mask the dose rate contribution from small items.

All procedural changes as a result of this investigation will be promptly disseminated to the technicians via training sessions.

SAFETY ASSESSMENT

The dose records of personnel who were possibly exposed to these bags were reviewed and TLDs were read. The results confirmed that no overexposures occurred as a result of this event.