

*Please refer to
document*

PRELIMINARY INVESTIGATION
HWP VIOLATION/CONTAMINATION INCIDENT AT DUF4

06-Jun-91

CHRONOLOGY

Scheduled work order S-017013-001 was written about 5-16-91 and requested a change of the filter bags in the waste and process vacuum systems.

At the request of the Maintenance Planner, Don Robertson, an HWP (1738) was prepared by the DUF4 supervisors Wednesday morning, 6-5-91. Maintenance wanted to change out the bags sometime on June 5.

During the morning, Maintenance checked with Engineering Department's Larry Franklin to determine the type of bags that would be needed for the changeout. Larry found the records at the Carlile School and compared with Warehouse Stock. He felt initially that we did not have the proper bags. Don Robertson and Tommy Davis reviewed Warehouse Stock Descriptions and found one 13 ounce bag that seemed appropriate. They contacted Larry Franklin and determined that the 13 ounce bag was probably the correct bag for the job. Fourteen were in stock, which was exactly the number required for a complete changeout.

The ^{HWP} work order was prepared by B.J. McAffrey, taken to the in-plant HP office by Eulous Youngblood sometime around 11:00-11:30, and approved by Sr. HP Tech, David Nieto. The HWP stated that "Equipment is Prepared for the Following Work: To change out bags." Prescribed protection included: (1) Full face respirator during entire job; (2) Gloves; (3) Lapel sampler; (4) A tent to be built and approved by Health and Safety. The approved HWP was left in the Maintenance Supervisor's office before noon.

Tommy Davis, DUF4 Maintenance Supervisor, discussed the job with David Nieto, Sr. HP Tech, early in the afternoon. Based on Tommy's experience with the Sampling Plant Vacuum System, which is of similar construction, he felt that a tent would not be needed. Nieto agreed, crossed out the requirement for a tent, and initialled the change.

After lunch, Maintenance planned to open the system and verify that the bags in stock were the correct ones. Randy Mannon and Randy Maxwell were assigned the job. They took the HWP to the HP Tech Office and asked for respirators and lapel samplers. They told Frank Murch, Sr. HP Tech, that they only planned to do an inspection of the bags at the time. This was, in fact, what they had been asked to do by Tommy Davis--to view the bag, including connections at top and bottom, then examine a new bag at the warehouse counter before checking out all 14 bags. (~~Am uncertain whether the tent was in place at this time or not.~~)

^{Maintenance} Operations determined that a tent was necessary for this job and constructed one themselves. Maintenance was busy with several jobs at the time, including reactor replacement, which is a major job. Due to the complexity of this task, this activity captured most of Tommy Davis's attention. In fact, Randy Mannon did most

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of the bag changeout alone, because Randy Maxwell was assisting with the reactor job.

David Nieto was contacted by B.J. McAffrey and told that Operations had determined that a tent would be necessary. Nieto concurred with their judgement.

After Maintenance found that the bags in stock were correct, they decided to proceed with bag changeout, since they had an approved HWP. Mannon and Maxwell found that the "clean" side of the bags (where they were working) was actually quite contaminated with DUF4. In order to change bags, they had to put their head, shoulders, and arms inside a manhole on the side of the vessel to unclip the bags, drop them, disconnect below, and remove from the vessel. The bags were rolled up inside the vessel and put directly inside a plastic bag held just below the manhole.

Around 3:20, McAffrey went out to check progress. He arrived to find the NRC inspectors and Scott Munson standing outside the tent. *On* Two maintenance workers were standing nearby contaminated with DUF4 on their coveralls, arms, and back of the head. They were originally instructed to go clean up. However, it was quickly noted that they were spreading contamination. They were told to stay put, while McAffrey went to the change room to get fresh coveralls and shoe covers. (It was noted that the Maintenance workers did not have the HWP on their person, but instead it was on the Maintenance Supervisor's desk in the Maintenance shop.)

After changing coveralls and shoe covers, Mannon and Maxwell went to the change room to shower. They cleaned themselves until they passed a release survey by H&S. H&S took nasal swabs to check for inhalation of DUF4 powder. (The lapel sampler used by Randy Mannon was grossly contaminated with powder and therefore could not provide any useable readings. Also, the sampler only ran for 47 minutes. The actual job took a couple of hours.) The workers are also being required to submit fecal samples for determination of DUF4 intake.

After one of the Maintenance workers had left, someone realized that he had been wearing a watch during the bag changeout. He was called at home and asked to return with his watch. The watch was checked by H&S and found contaminated. It was placed in a bag and kept onsite.

J. E. Mannon
6/8-91

SEQUOYAH OVERSIGHT TEAM DAILY REPORT
INDEPENDENT OVERSIGHT PROGRAM

IOP-1

DATE: JUNE 7, 1991

Sheet 1 of 1

SOT MEMBER: D W Lotman

SOT LOG BOOK PAGE(S): II-28, 29

OVERSIGHT TIME PERIOD

START TIME: 0545

COMPLETION TIME: 1345

ACTIVITIES, AREAS, PROCEDURES OBSERVED:

- ① Toured the OUFs, MPC, Yellowcake Pad and Boron Chloride storage areas.
- ② Attended the NRC Exit meeting.

OBSERVATIONS:

- ① BY ROUGH COUNT THERE ARE 4,000 DRUMS (PERHAPS MOSTLY EMPTY) STORED IN AREA THAT WERE INTENDED TO BE AISLES ON THE YELLOWCAKE PAD. LITTLE STORAGE SPACE REMAINS. THE RUMI CAUSHER INSTALLATION NEEDS TO BE COMPLETED. IN THE OUF PLANT, THE NEW REACTOR IS IN PLACE BUT NOT WELDED.
- ② NRC EXIT WAS SEVERE. NRC APPEARED TO RECOGNIZE THAT COERCITIVE ACTIONS ARE BEING TAKEN (OR PLANNED) BUT THE NRC IS SEEKING A FASTER, MORE PROACTIVE RESPONSE TO GENERAL PROBLEMS.

CONCERNS:

ACTION ITEMS:

ITEM

ASSIGNEE

ACTION DATE

SEQUOYAH OVERSIGHT TEAM DAILY REPORT
INDEPENDENT OVERSIGHT PROGRAM

IOP-1

DATE: June 8, 1991

Sheet 1 of 1

SOT MEMBER: GARRY G. YOUNG SOT LOG BOOK PAGE(S): II-29

OVERSIGHT TIME PERIOD START TIME: N/A COMPLETION TIME: N/A

ACTIVITIES, AREAS, PROCEDURES OBSERVED:

Due to airline cancellation of scheduled flight, SOT member spent the day in travel and did not physically visit the facility. Telephone contact was made to inform the facility of the situation, and SOT Project Manager's telephone number was restated to the UFG shift Supervisor in case an incident occurred.

OBSERVATIONS:

NONE

CONCERNS:

NONE

ACTION ITEMS:

ITEM	ASSIGNEE	ACTION DATE

DATE: June 9, 1991

sheet 1 of 1

SOT MEMBER: GARRY G. YOUNG SOT LOG BOOK PAGE(S): II-30,31,132

OVERSIGHT TIME PERIOD START TIME: 1020 COMPLETION TIME: 1820

ACTIVITIES, AREAS, PROCEDURES OBSERVED:

- ① Monitored the facility operation and maintenance activities.
- ② Followed up on Pond #2 remediation efforts
- ③ Followed up on Cleanup Reactor (CR) #2 prototype ash removal project status
- ④ Reviewed 18 procedures that are scheduled for PORC review on 6/10/91
- ⑤ Followed up on cleanliness, contamination control, and housekeeping inspection status.

OBSERVATIONS:

- The facility was operating well today. All systems are back in service and no major equipment is being repaired.
- Pond #2 has been cleaned somewhat by removing debris (i.e., electrodes). However, some additional debris is visible. Cleanup appears to be on-going.
- Procedures for PORC review are primarily to meet periodic review requirements. They have not been upgraded to address format and content improvements that is part of the overall conduct of operations program.
- As of 6/7/91, the operations department has initiated a formal inspection program

CONCERNS: No new concerns.

for all areas of the facility. The program involves documented inspections by the UO₂ and UF₆ Shift Supervisors every shift (i.e., 3 times/day), and inspections by the UO₂ and UF₆ Area Managers every scheduled work day. These inspections focus on contamination control and general house-keeping. This information is collected and reviewed before being submitted to Mr. Ken Graves. This high level focus on this issue should result in prompt action.

ACTION ITEMS:

<u>ITEM</u>	<u>ASSIGNEE</u>	<u>ACTION DATE</u>
<u>Attend PORC meeting on 6/10/91</u>	<u>G.G. Young</u>	<u>6/10/91</u>