NON-ROUTINE ENVIRONMENTAL OPERATING REPORT

(Revised July 10, 1979)

ANALYSIS OF EVENT

At approximately 0800 on May 14, 1979 an Alabama Power Company Startup Supervisor notified the Chemistry & Health Physics Supervisor that it was possible that some of the decontamination room drains were routed to the Unit 2 floor drain system. By 1500 on 5/14/79 it was determined conclusively that 4 decontamination room sinks were connected to the Unit 2 floor drain system rather than the Unit 1 floor drain system. This determination was made by sampling of a Unit 2 Auxiliary Building, 77' elevation, sump.

The flow path for the effluent from the 4 decontamination room sinks ran to a sump on the 77' elevation of the Unit 2 Auxiliary Building, to the Unit 2 tendon access gallery, then to an alkaline flush pond, and then to a ravine with possible run-off to the Chattahoochee River. Radiation surveys were conducted in the Auxiliary Building along the flow path with readings varying from 100,000 DPM* to less than 100 DPM*. An analysis of the alkaline flush pond discharge revealed radioactive isotopes "not present" as defined by 10CFR20, Appendix B, note 5.

An investigation indicated that approximately 1860 gallons of contaminated water had entered the above flow path since 3/30/79. Operations practice prior to 3/30/79 was to pump the drain waste to 55 gallon drums to prevent entry of decon chemicals to the Unit 1 floor drain system.

A conservative estimate for an upper limit of total activity released to the environment is approximately 17 millicuries. This was obtained assuming all 1860 gallons released reached the environment and was composed of the nuclides present in the sample of Decon Room sink liquid on 3/30/79. Millicurie levels for each isotope were:

Co 58 -	9.08 millicurie
Co 60 -	2.79 millicurie
Cr 51 -	2.40 millicurie
Zr 95 -	.23 millicurie
Mn 54 -	.80 millicurie
Fe 59 -	1.43 millicurie
	16.73 millicurie

Radiation surveys revealed the following:

a. Contamination was confined to discrete areas on the 77', 87' and 100' elevations, floor drain system and the tendon access gallery of the Unit 2 Auxiliary Building.

427 343

7907300 323

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b. The Unit 2 Auxiliary Building elevations above 100' were clear of contamination. Areas above 100' that were surveyed provided the egress path from the lower Auxiliary Building levels.

c. Surveys of the clock alley and time card rack indicated no contamination.

d. Surveys of Construction personnel who were working in the immediate area at the time indicated shoe contamination in 3 cases. The highest reading was 500 DPM*. This survey was conducted after the normal quitting time for Construction personnel. The shoes were dispositioned in accordance with FNP-0-RCP-29.

Decontamination of the Unit 2 Auxiliary lower levels commenced and the pumps in the tendon access gallery were placed under administrative controls to prevent their inadvertent operation.

Based on the survey results of the upper levels of the Auxiliary Building and the clock alley, it was determined that loose surface contamination was not being tracked out of the building.

A meeting was held with Construction and Production supervisory personnel regarding Auxiliary Building clean up, survey of potentially affected personnel and environmental monitoring. Notifications were made to the NRC, ANI and the State of Alabama.

On 5/15/79, approximately 324 Construction personnel that could have been in the affected area were monitored. Results of the monitoring indicated 11 workers had fixed contamination on their shoes varying from 400 DPM* to 10,000 DPM*. Also, two pairs of contaminated gloves with a reading of 6,000 DPM* and 20,000 DPM* were discovered. Whole body counts of the 11 workers revealed negative results. Based on this survey, the cars in which the 11 had ridden were surveyed with no contamination found. On surveying the houses of the 11 personnel, 3 pairs of pants and one shirt were found to have fixed contamination. Contamination on the pants was confined to the knee area with contamination levels varying from 2,000 DPM* to 20,000 DPM*. The contamination level on the shirt was 500 DPM*. All contamintion on clothing and shoes was fixed. Various other articles of clothing were surveyed during the week of May 14th with no contamination found.

Appropriate environmental sampling was conducted the week of May 14th.

The health and safety of the public were not affected.

DESIGNATION OF APPARENT CAUSE

The decontamination room (Room 406), Auxiliary Building, Elevation 155', is located on the dividing line (Line 19) between Units 1 and 2 and is presently accessible from Unit 1 for security purposes only and locked and barricaded to Unit 2. This shared room is not separated by a barrier which clearly divides the room between Unit 1 and Unit 2. As a result, it was incorrectly assumed that all of the drains went to the Unit 1 floor drain system.

On 9/4/78 Shop Work Order 2809 was completed which installed sinks in the room, and this routed their effluent to sink drains leading to Unit 1.

Drawings related to the decontamination room are as follows:

a. Unit 1 P & ID (D-175004, sheet 1, Rev. 13) - 3 capped sink drains, 1 uncapped wash pan drain and 1 uncapped floor drain.

b. Unit 1 Drain Piping Plan (D-175207, Rev. 18) - same as a.

c. Unit 2 P & ID (D-205004, sheet 1, Rev. 7) - 3 capped sink drains and 1 uncapped floor drain.

d. Unit 2 Drain Piping Plan (D-205207, Rev. 5) - same as c except sink drains uncapped.

Inadequate design change control resulted in decontamination sinks being installed with their effluent routed to Unit 2 drain piping, that was shown capped on engineering drawings.

CORRECTIVE ACTION

The following corrective actions have been accomplished:

a. Immediately after the incident, affected Unit 2 Auxiliary Building areas were roped off and posted with appropriate radiation warning signs.

b. An investigation was performed by an engineer to determine if any other drains went from Unit 1 to Unit 2. A total of 6 drains, including 4 in the decontamination room, were located and plugged. Also "Hold" tags have been placed.

c. Discharges from the tendon access gallery were placed under administrative control after the incident. These restrictions were lifted following decontamination.

d. Incident has been discussed with appropriate supervisory personnel with responsibilities in implementing design changes.

e. All affected Unit 2 Auxiliary Building areas and piping have been decontaminated. Portions of the affected piping system have low levels of fixed contamination that could not be removed by acid cleaning or flushing. These lines have been placed under administrative control by placing appropriate signs ("Caution Radioactive Materials" and "Do not cut, burn or otherwise disturb this pipe without Health Physics approval").

NOTE: *Radiation Levels at Contact with Surface, Taken with Eberline Count Rate Meter, Model E140/HP210.