
2.4 Environmental Occurrences

R. L. Smithwick and D. G. Black

Onsite and offsite environmental releases of radioactive and regulated materials during 1995 were reported to DOE and to federal and state agencies as required by law. The specific agencies notified depended on the type, amount, and location of the individual occurrences. In some cases, an occurrence may be under continuing observation and evaluation. During 1995, all unusual and off-normal occurrences at the Hanford Site were reported to the Hanford Site Occurrence Notification Center. This Center is responsible for maintaining both a computer database and a hard copy file of event descriptions and corrective actions. Copies of occurrence reports are made available for public review in the DOE Public Reading Room located on the Washington State University Tri-Cities campus in Richland, Washington.

As defined in DOE Order 232.1, emergency occurrences “are the most serious occurrences and require an increased alert status for onsite personnel and, in specified cases, for offsite authorities.” There were no emergency occurrence reports filed in 1995.

An unusual occurrence is defined as “a nonemergency occurrence that exceeds the Off-Normal Occurrence threshold criteria, is related to safety, environment, health, security, or operations, and requires immediate notification to DOE.” There were two unusual occurrence reports filed during 1995 for Site contractors. The unusual occurrences are summarized below.

Off-normal environmental occurrences are referred to as “abnormal or unplanned events or conditions that adversely affect, potentially affect, or are indicative of degradation in the safety, safeguards and security, environmental or health protection, performance or operation of a facility.” There were 22 off-normal environmental release-related occurrence reports filed at the Hanford Site during the year, most of which involved minor releases of hydraulic and diesel oils during excavation or earthmoving activities

(most of which were nonregulated). The “Nature of Occurrence” for these occurrences was determined to be either “Hazardous Substance/Regulated Pollutants/Oils” or “Hazardous Material Contamination.” The more significant of these off-normal occurrences are summarized below.

Unusual Occurrences

Notice of Penalty Assessed by the Washington State Department of Ecology

In May 1995, Pacific Northwest National Laboratory received a notice that the Washington State Department of Ecology had assessed a penalty against DOE and Pacific Northwest National Laboratory in the amount of \$7,000. The assessment was for a failure to designate a container of solid waste in violation of Washington Administrative Code (WAC) 173-303-170(1)(a) and the procedures of WAC 173-303-170. This assessment was a result of field inspection, personnel interviews, and record reviews performed by the Washington State Department of Ecology.

Spill Plan Reference Not Submitted Within Required Time-Frame

The 200 Area Effluent Treatment Facility State Waste Discharge Permit requires the submittal of a spill plan or references of existing plans to the Washington State Department of Ecology within 60 days of the effective permit date. The submittal of the spill plan was not transmitted by its due date in August 1995. The reference to the final spill plan was transmitted to the Washington State Department of Ecology on the following day.

Off-Normal Occurrences

Contamination Discovered in Laboratory Sink

During a routine survey of Lab 416 in the 325 Building, 300 Area, the Radiological Control Technician discovered removable contamination reading 10,000 disintegrations per minute beta-gamma in the laboratory sink, which is connected to the retention process sewer. The sink was decontaminated to nonremovable levels and then replaced.

Treated Effluent Disposal Facility Failure to Meet Release Limits

The 300 Area Liquid Effluent Facilities received laboratory analysis results for effluent samples taken in 1995. On several occasions, the sample results indicated that the levels for copper, suspended solids, bis(2-ethylhexyl) phthalate, or cyanide exceeded the maximum daily limits set in the National Pollutant Discharge Elimination System permit.

The violations have not been gross or consistent. The facility was operating normally and within design specifications at the time of each event. The permit release

limits established for the facility are stringent and set a precedent for waste-water treatment standards. The discharge permit for this facility is open to renegotiation after one year of operation. The management and operation contractor will use the permits re-opener clause to adjust any limits that operating data show to be too restrictive. The proposed modifications are to be submitted to DOE Richland Operations Office by August 1996.

Unplanned Discharge of Waste Water to the City of Richland Sewer System

The water processing equipment for the vehicle steam cleaning waste-water accumulation tank was stored in the bus wash area of the 1171 Building. This equipment is normally located outside, but due to potential freezing temperatures is located inside the building during winter months. During routine unattended waste-water processing, a seal ring on the pump failed, causing the circulation pump to shut down. When this occurred, it caused a syphon effect on the discharge side of the pump, which drained approximately 6,800 L (1,800 gal) of partially processed waste water through the defective seal ring from the holding tank directly to the city sewer system. Based on the pH test and visual inspection of the water and system, the City of Richland determined the discharge was within acceptable limits.