
2.4 Environmental Occurrences

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Onsite and offsite environmental releases of radioactive and regulated materials during 1996 were reported to DOE and other 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 1996, 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's Hanford Reading Room located on the campus of Washington State University at Tri-Cities, 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 1996.

An unusual occurrence is defined in the DOE Order 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 no environmentally significant unusual occurrence reports filed during 1996 for site contractors.

Off-normal environmental occurrences are classified in the DOE Order 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 15 off-normal environmental release-related occurrence reports filed at the Hanford Site during 1996. These occurrences were determined to be either hazardous substance/regulated pollutants/oils or hazardous material contamination or potential concerns/issues. Several of these occurrences are discussed in Section 2.2, under the Resources Conservation and Recovery Act Inspections, Clean Air Act

Enforcement Inspections, and Clean Water Act subsections. The following summarizes some of the other off-normal occurrences not previously discussed.

Off-Normal Occurrences

100-N Emergency Dump Basin Contaminated Sediment Spill

On December 12, 1996, at approximately 10:10 a.m., contaminated solidified sediment from the 100-N Emergency Dump Basin in the 100-N Area was spilled to the ground while offloading a hauling container from a transporter. The spill occurred at a temporary staging area, posted as a radiological material area, at the Environmental Restoration Disposal Facility. Initial radiological readings from the contaminated sediment on the ground were reported to onsite project management to be 60 dpm alpha/100 cm², 5,926 beta gamma/100 cm², and 7 mR/h on contact. The spill was cleaned up. To prevent further incidents, procedural changes were made and lessons learned were drafted and issued to all involved personnel.

Annual Emission Limit Exceeded at 105-KE Basin

The 105-KE Basin in the 100-K Area exceeded the annual emission limit for plutonium-241 as set forth in *Radioactive Air Emissions Notice of Construction Debris Removal, 105-KE Basin* (DOE 1995e). The projected annual plutonium-241 emission estimate of 4.0×10^{-5} Ci had been accepted by the Washington State Department of Health as a limit. For the period February 1995 through November 1995, there were 1.9×10^{-4} Ci released. The delay in reporting is due to sample processing time at the laboratory. The Washington State Department of Health was originally notified of indications that plutonium-241 concentrations were exceeding projected levels at a September 1995 technical exchange meeting.

Polychlorinated Biphenyl Concentrations Discovered in K Basins Sludge

Chemical characterization data for sludge samples from the 105-KE Basin in the 100-K Area showed polychlorinated biphenyl concentrations between 2 and 220 ppm. These concentrations exceed those known from historical processes. No specific information regarding the source

of the polychlorinated biphenyl is available. Therefore, it is unknown if the contamination originated from a spill and, if so, if the spill was reportable under other regulations (e.g., Comprehensive Environmental Response, Compensation, and Liability Act, Toxic Substances Control Act, etc.). In the absence of source identification, this discovery has been conservatively reported as a spill to the National Response Center as required by 40 CFR 761.125.