

2.4 Environmental Occurrences



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Releases of radioactive and regulated materials to the environment are reported to the DOE and other federal and state agencies as required by law. The specific agencies notified depend on the type, amount, and location of each event. All emergency, unusual, and off-normal occurrences at the Hanford Site are reported to the Hanford Site Occurrence Notification Center. This center is responsible for maintaining both a computer database and a hardcopy file of past event descriptions and corrective actions. Copies of occurrence reports are made available for public review in the DOE Public Reading Room located in Richland, Washington. The following sections summarize the environmental occurrences that took place during 2003. For each occurrence, the title and report number from the Hanford Site Occurrence Notification Center is given.

2.4.1 Emergency Occurrences

Emergency occurrences are defined in DOE Order 232.1A as “the most serious occurrences and require an increased alert status for onsite personnel and, in specific cases, for offsite authorities.” There were no environmentally significant emergency occurrence reports filed during 2003.

2.4.2 Unusual Occurrences

An unusual occurrence is defined by DOE Order 232.1A as “a non-emergency occurrence that exceeds the off-normal occurrence threshold criteria and is related to safety, environment, health, security or operations.” There was one unusual occurrence with environmental impacts:

- Diesel spill from portable tank at 242-S Facility (RP-CHG-TANKFARM-2003-0004).

On January 22, 2003, two operators arrived at a hot water fill station near the 242-S Facility in the 200-West Area to

fill a hot water truck. Upon entering the area, the operators noticed a strong fuel odor. They identified the smell as being diesel fuel and pinpointed standing puddles near two portable diesel powered air compressors as the source of the odor. Shortly after the spill, Health Physics Technicians cordoned off the area and isolated the spill with adsorbent material. It was later discovered that approximately 757 liters (200 gallons) of diesel had leaked as a result of a fuel line hose being incorrectly attached during maintenance activities. The effected soil was excavated and moved to a remediation area. To avoid a repeat of this incident, more robust hoses and fittings were installed on the compressors and a protector was installed over the fuel lines on the compressors. This will reduce maintenance activities, which will reduce the possibility of error.

2.4.3 Off-Normal Occurrences

The DOE order describes off-normal occurrences as “abnormal or unplanned events or conditions that adversely affect, potentially affect, or are indicative of deprecation in the safety, safeguards and security, environmental or health protection, performance or operation of a facility.” Two off-normal occurrences with environmental impacts occurred during 2003:

- Contaminated wasp nest discovered at 100-N Area (Roll-Up) (RL-BHI-GENAREAS-2003-0003).

On August 12, 2003, radiological control support was requested at the 1143 Maintenance Building in the 100-N Area to perform a radiological survey of a generator that contained three wasp nests. The following day, three additional wasp nests were found at the 100-N Area maintenance facility. All of the nests were located within a Radiologically Controlled Area but outside of a posted

Contamination Area. The nests discovered on August 12 had beta-gamma levels of 260,000 dpm direct and 17,000 dpm removable. The nests discovered on August 13 were lower in activity, with the highest level of 18,000 dpm direct. No alpha radioactivity was discovered. The generator was used in the 100-H Area before it was moved to the 100-N Area; therefore, the mud used by the wasps to build nests most likely originated from water used to control dust in the 105-H Basin.

- Contaminated wasp nests discovered outside of contamination area (Roll-Up) (RL-BHI-DND-2003-0004).

Throughout the summer of 2003, contaminated wasp nests were found around the 105-H Reactor Building in the 100-H Area. Surveys for contaminated wasp nests were prompted by initial discoveries of nests with beta-gamma

levels as high as 120 millirad per hour (beta) and 1 millirem per hour (gamma). Numerous contaminated nests were identified over the course of the summer. Contaminated wasp nests were removed and disposed of in accordance with 10 CFR 835. The contamination originated in the 105-H Basin where a 5.1-centimeter (2-inch) layer of water was maintained on the floor. The water on the basin floor resulted in the creation of an abundant mud source. The 5.1-centimeter (2-inch) water level on the floor of the 105-H Basin was implemented to control dust in response to a 2002 occurrence (RL-BHI-DND-2002-0013). Mitigation activities for the wasp problem included using Borax as a deterrent/poison, applying pesticides to eliminate the wasps, creating clean mud areas to attract wasps away from the 105-H Basin, and reducing the amount of exposed mud in the basin.