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189-D MERCURY INFORMATION

ISSUE

In August, 1989, 100 Area Environmental Protection received information from Jim Bates, a PNL employee familiar with the 189-D, that as a result of past operational practices (at least 10 years ago or longer) there is a potential for the presence of Metallic Mercury on the floor of the pressure tunnel at 189-D. On August 18, 1989, Tim Johnson and Rod Griffin performed an inspection of the north end of this tunnel and confirmed the presence of small beads of mercury on the tunnel floor. In addition, the same condition was found at the entrance to the discharge pipe into which the tunnel empties. Facility drawings were difficult to obtain, and the drawings that were found indicated that the discharge pipe ultimately empties into the 100-D Backwash Pond. Therefore, we assume that mercury was discharged into this pond.

On August 28,1989, we forwarded a memorandum to Sue Price, Manager of RCRA Permits Section, informing her of the potential for the discharge of mercury into this pond. This notification was made because of our concern that revision to the current RCRA Part A Permit would be necessary.

On October 16, 1989, she responded and requested an estimate of the total quantity of mercury released to the pond. Because of this request, 100/1100 Environmental Engineering was contacted, and we are working together to determine a quantity estimate for the Permitting Section. A meeting is scheduled for November 20, 1989.

INFORMATION SOURCES

Jim Bates Org: PNL Phone #: 375-2539/3721 MSIN: K5-21
Ken Hinkle Org: PNL Phone #: 375-~~2772~~ MSIN: K5-20 1958-88
Dale Fitzsimmons Org: PNL Phone #: 375-2103 MSIN: K5-21
Lois Knapp Org: WHC ITM/IS Phone #: 376-5440 MSIN: L8-04 Document Info.
Det Wegener Org: WHC DRD/Opr Phone #: 373-1608 MSIN: X3-68 Landlord
Jim Mathews Org: WHC DRD/Opr Phone #: 373-4598 MSIN: X3-68 Landlord

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INVESTIGATION INFORMATION

Current information leads us to believe, that during the operation of this facility, mercury was released to the floor by way of broken instrumentation equipment (e.g. mercury switches, manometers, etc.). This mercury was washed or swept into floor drains which lead to the pressure tunnel under the main floor of the 189-D. Based on information we received from Jim Bates, these releases occurred prior to 1974, and at this time the exact quantities are unknown. We are currently trying to locate historical information (e.g. operation's logs, maintenance logs, etc.) which would document information about instrument breakage or repair.

On November 10, 1989, I contacted Ken Hinkle of PNL to discuss any historical information he may be able to provide as a result of the his years of working in the 189-D. Ken worked in this facility from 1958 to

1988. He informed me, that the chances of finding any operations information (e.g. operational logs, instrument logs, etc.) are poor. During the years the facility was operating, such things as instrument breakage/repair and the loss of mercury due to this breakage was not considered important enough to document in operational documents. I discussed the sump area that Tim and I found in the tunnel with Ken. According to him, this area is called the "Cyclone Separator," and he believes that it was added to the tunnel in 1964/65. Based on what I saw during my inspection of the tunnel, I believe, that it would be difficult for mercury to get past this separator. Therefore, the chances of mercury moving along the tunnel floor from the south end of the tunnel to the north end after the construction of this addition are very low. Ken also supported the information provided by Jim Bates. Both Jim and Ken believed the tunnel water flows were with in the range of 1500-3000 gpm. This flow depended on whether or not both the south and north ends of the facility were in operation. In addition, they both stated that the probability of mercury getting into the tunnel after 1974 were extremely low as a result of the installation of traps on all instruments containing mercury. Neither Jim nor Ken could remember any mercury spills after 1974. (Note: The 100-D Backwash pond was built in the 1977/78 time frame.) If we need approval to obtain the services of Ken Hinkle at the 189-D, we need to contact either M. K. Drost (Phone # 375-2017) or L. D. Kannberg (Phone # 375- 3919).