

DECLASSIFIED

## GE-AEC BUSINESS RECORD

HW-41074

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RADIOLOGICAL SCIENCES DEPARTMENT INVESTIGATIONRADIATION INCIDENT CLASS I, No. 553-C

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Nature: Pool of metal waste solution on ground behind the 221-T Canyon, 200-West Area, December 30, 1955.

Description: An Operator approached the 154-TX Diversion box to take electrode readings of the 302 catch tank which was being emptied of accumulated rain water and metal waste. As he approached, his dose rate survey meter indicated increasing radiation levels, and at about 100 feet from the box, the dose rate was 300 mr/hr. Investigation revealed a 15' x 30' pool of metal waste on the ground approximately above the buried catch tank. Dose rates one foot above the waste were in the order of 100 rads/hr. At the exclusion area gatehouse, some 600 feet away, the dose rate was measured at 3 - 5 mr/hr.

Imetry: Fortunately, the approaching Operator was alertly utilizing his survey meter and therefore was able to stop in time. A check of the personnel meters worn by other shift workers indicated no undue exposure. Therefore, although considerable personnel exposure resulted from this incident during subsequent cleanup and control work, no exposures in excess of permissible limits are indicated.

Discussion: Apparently, when the steam jet was actuated to empty the catch tank, a leak in the underground transfer line allowed several thousand gallons of waste to percolate through the ground to the surface. This part of the waste system is not encased in concrete, as are the majority of the existing waste lines, and once the underground leak occurred, there was no way below the ground to contain or divert it.

Cause: Process equipment failure. (C-1)

Recommendations: 1. Publicize the fact that an employee, by conscientiously performing his radiation zone duties, saved himself from a possible serious radiation exposure.  
 2. Review, and revise as necessary, procedures relating to catch tank operations.  
 3. Radiation Monitoring consider the use of portable automatic radiation detectors that will detect significant dose rates at semi-remote work locations and provide an early alarm of abnormal conditions.

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J. W. Vanderbeek:asd

January 25, 1956

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