

②

24630

HEALTH PROTECTION SURVEY REPORT
Los Alamos Scientific Laboratory
by
Claude E. Davis and Raymond L. Miller
September 1-3, 1964

Summary

A survey of the health protection program in effect at the Los Alamos Scientific Laboratory was performed. The conclusions are that the program is adequate to insure healthful working conditions for LAAO, LASL and Zia employees. One suggestion is made as a result of the survey and involves radiation monitoring of C-47 aircraft.

Introduction

A survey of the health protection program at LASL was performed by Claude E. Davis and Raymond L. Miller of the ALO Operational Safety Division on September 1-3, 1964. The survey included a review of the practices and procedures for radiological safety, industrial hygiene, radioactive waste disposal, and environmental monitoring. Adequacy of action on previous survey suggestions was reviewed. An extensive tour of Laboratory facilities afforded the opportunity to observe the practices and procedures in actual operation. The purpose of the survey was to evaluate the health protection program and recommend improvements if appropriate. Results of the survey were discussed with management personnel from LAAO and LASL at the conclusion of the visit.

Discussion and Conclusions

The health protection organization maintained by LASL is providing a good health protection program for the employees of the AEC, LASL and Zia Company and for the residents of Los Alamos. The staff members are competent, aware of potential problems, well equipped and receive adequate management support.

Proposed changes in the sick leave and return-to-work policies should be adequate implementation for the suggestion contained in Dr. L. B. Tepper's occupational medical appraisal report of January 29 and 30, 1964.

Disposal of solid radioactive wastes is well coordinated and adequate records are being maintained. The continued significant reduction in cost for solid waste burial is commendable. Disposal of liquid radioactive wastes is being performed in a satisfactory manner and effluents are within the limits established by AEC. Efforts to provide adequate process equipment for handling DP West wastes should be continued.

Best Available Copy

Received by ER-RPF
JUN 15 1992
HWS



Findings of Survey

Disposal of Radioactive Wastes. Solid radioactive wastes are buried under direction of an H-1 staff member. The only non-LASL wastes being accepted are classified materials from Bendix Corporation and Iberline Instrument Corporation. Low activity wastes are collected and packaged for burial by janitorial personnel. Dumpster Dumpsters are used extensively for waste storage and transportation. Pickup of wastes occur at intervals varying from 3 to 30 days and 2,000 miles may be driven each month for waste transportation.

Additional low activity wastes include sludge from the liquid waste processing plants and residue from the TA-1 demolition. About 50 drums of sludge are buried each month and 10-20 truckloads of TA-1 residue/day are being transported to the burial site. Twelve of the original TA-1 buildings are being razed. Uranium and plutonium contamination levels to 10,000 d/m/10 cm² have been measured in some of the buildings and consequently 6 of them are being disposed of as radioactive wastes. Materials are covered with tarpaulins during transport and burned in Pit 4 at Area C burial ground. Air samples collected during burn periods indicate no significant hazard and an SOP was prepared to cover the demolition project.

High activity waste burials are given special attention and occur 2-4 times each month. Special shielded transfer containers are used and H-1 monitors are in attendance throughout the procedures. These burials occur in 12" or 36" diameter by 30' deep wells located in Area C burial ground. Each well is capped with concrete to insure a permanent, nonleachable condition. Records of burials include a logbook which contains daily entries as to material location, type, quantity, etc. A grid system has been established in order to provide means of relocating buried items, if necessary. During the second quarter of 1964 a total of 2,110 yds³ were buried in 55-gallon drums, cardboard boxes and plastic bags. The year-end total for 1963 was 7,872 yds³. Costs have decreased from \$20/yd³ in 1956 to \$15/yd³ in 1963. Chargeable burial expenses include 21 items such as packaging, collection, transportation, excavation, monitoring, fencing, etc.

Liquid radioactive wastes are processed by 13 members of H-7 through waste treatment plants located at TA-50 and DP West. TA-45 waste plant is no longer receiving wastes and is currently being prepared for final disposal. Ten Site waste plant is on standby only and all Ten Site wastes are currently pumped to TA-50 for processing. A request for a new disposal plant at Ten Site is being considered by Laboratory management.

Waste stream treatment at both TA-50 and DP West plants consists of chemical addition, flocculation and sedimentation. Sludge from the settling tanks is processed through vacuum filters and buried in 55-gallon drums in Area C burial ground. Liquid from the DP West settling tanks is pumped through ion exchange columns which are regenerated twice a year. Effluents