

AI ENVIRONMENTAL MONITORING
ANNUAL REPORT
1972

Addendum

Evaluation of Dose to the Public

The potential exposure to an individual or population group which could have resulted from activities at AEC facilities operated by AI were evaluated on the basis of (1) site perimeter radiation dosimetry data, (2) stack effluents, and (3) liquid effluents.

Site Perimeter Dosimetry Data

The site perimeter radiation dosimetry data for the Santa Susana site indicate annual radiation doses, as measured by thermoluminescent dosimeters, ranging up to 250 mrem, with the exception of one dosimeter, which received 330 mrem as a result of AI licensed field radiography operations in the vicinity. The natural radiation background in the area of the site is about 150 to 200 mrem/year and is included in the reported perimeter doses. With one exception, the locations of the dosimeters, as indicated in Table VII and Figure 6 of the report, are not at the actual Santa Susana site boundaries, in some cases due to the contiguous Rocketdyne Division of Rockwell International, and in other cases due to the inaccessibility of the site boundaries. The distances from the dosimeter locations to the nearest site boundaries are:

TLD-5	775 ft
TLD-6	250 ft
TLD-7	210 ft
TLD-8	at boundary
TLD-9	250 ft
TLD-10	2000 ft

The minimum distance from the AI site boundaries to the nearest occupied structure is greater than one mile. It is thus highly improbable that the potential exposure to an individual of population group for the calendar year 1972 exceeded one percent of the relevant AECM 0524 dose standards.

Stack Effluents

During calendar year 1972 there were three points of release of stack effluents from AEC facilities. These release points and the associated average airborne radioactivity concentrations at the stack exits for the year are:

Radioactive Materials Disposal Facility	- 4.5×10^{-16} uCi/cm ³ α
	4.4×10^{-15} uCi/cm ³ β
Engineering Test Building (Main Stack)	- 1.3×10^{-16} uCi/cm ³ α
	4.1×10^{-16} uCi/cm ³ β
Engineering Test Building (Hot Cell)	- 2.1×10^{-16} uCi/cm ³ α
	1.1×10^{-14} uCi/cm ³ β

These concentrations are in all cases less than 10% of the average concentrations observed in the environmental air throughout the area of the site, as indicated in Table V of the report. It is thus apparent that no potential exposure of an individual or population group could have occurred as a result of stack effluents from AEC facilities during calendar year 1972.

Liquid Effluents

No potential exposure to an individual or population group could have resulted from the release of liquid radioactive waste during calendar year 1972, since no such effluents were released from AEC facilities. Concentrations of radioactive material in the final holding pond for the surface drainage and sanitary wastes from the Santa Susana

site are essentially the same as the concentrations in the site water supply which is obtained from Ventura County Water District #10. These concentration values are described in Tables III and IV of the report.