MONTHLY PROGRESS REPORT
FOR JANUARY 1979

SAFEGUARDS ANALYSIS FOR BYPRODUCT MATERIALS AND SMALL QUANTITIES OF SNM
(189 No. B6108)

Health and Safety Research Division
Oak Ridge National Laboratory

PRINCIPAL SCIENTIST: R. O. Chester

OBJECTIVE:

The principal objective of this analysis is to examine the question of whether the risk and consequences of theft or sabotage of facilities or vehicles containing small quantities of special nuclear materials (SNM), and byproduct materials are such that licensees should be required to adopt further measures to safeguard them. Phase one of this study was an initial screening of these materials. From this screening, candidates for further consideration were identified. In the course of phase two, a detailed examination will be made of the conditions of possession, use, and shipment of the materials identified in phase one. The characterization of the conditions of possession, use, or shipment will identify any current conditions of the referenced materials that contribute significantly to either the protection from or vulnerability to potential attempts at theft, diversion, or sabotage.

TECHNICAL PROGRESS:

During a site visit by the project officer, G. S. Lewis, Jr. of NRC, on January 10, 11 and 12, the phase II statement of work was reviewed. Task statements were discussed in detail and divided into two categories. Category A contains tasks that do not involve source/licensee contact. Category B assumes clearance to contact sources/licensees has been obtained.

In Category A a detailed health effects analysis for the materials identified in phase I was identified as a required task. A literature survey is to be made of the rationale for establishing the presently proposed threshold levels for initiating remedial action, including the acceptability of involuntary risk of cancer induction. This survey has been initiated. A more detailed description of the delivery methods and conditions than is given in the phase I report is requested. The impact of varying the meteorological conditions at the time of the aerosol generation is to be further quantified. Screening methodology for the materials identified in phase I is to be presented explicitly with the list of candidate materials. This presentation has been started. Also a plan is to be developed for obtaining information from the sources/licensees.

Category B tasks include identifying and contacting the sources/licensees. Then the list of materials to be analyzed may be updated and their possible threats analyzed. Finally, the feasible malevolent deployment options will be identified and the candidate materials for reconsideration of physical protection will be characterized.

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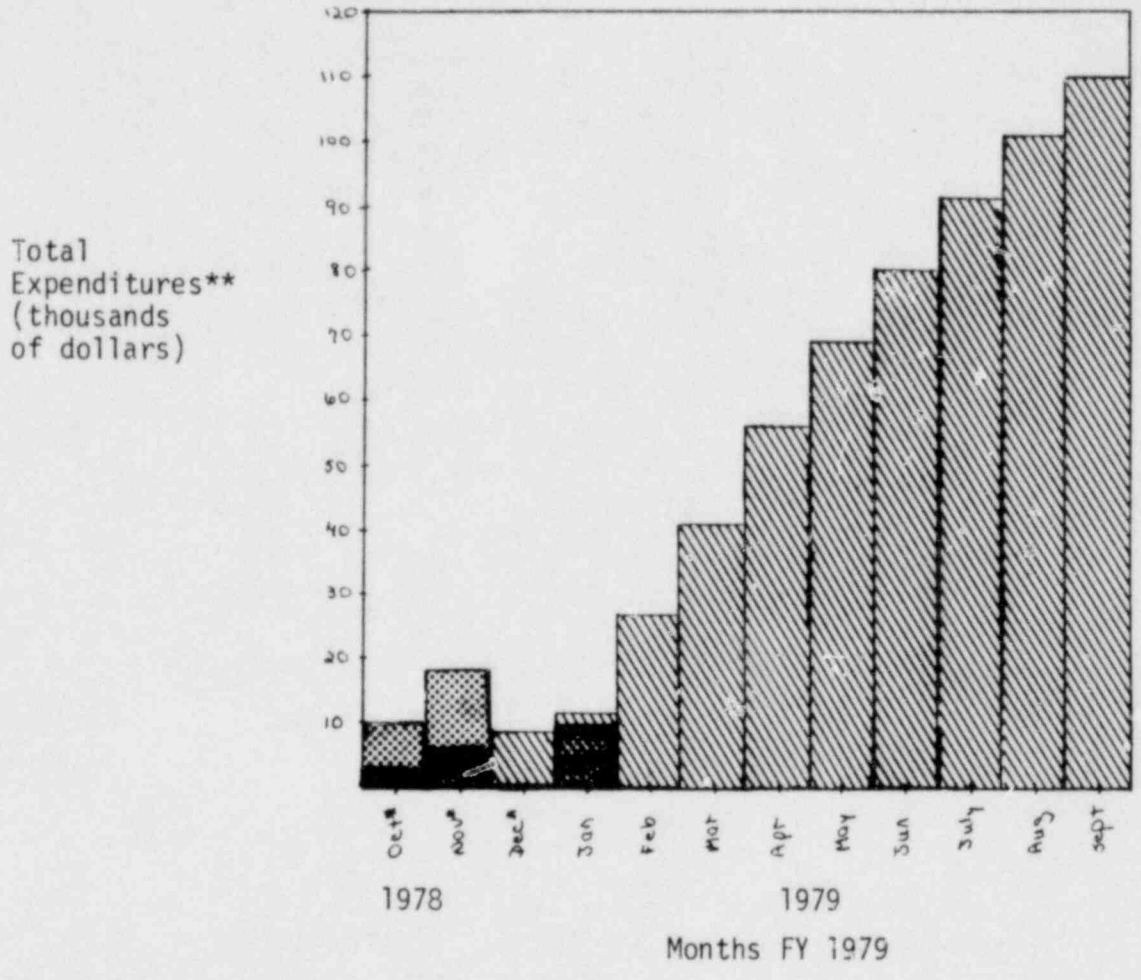
BUDGET AND TECHNICAL MANPOWER EXPENDITURES (FY 1979)

Reporting Period	Project Costs, $	Technical Support, Man-months
January 1979	11,121	1.0
Total to Date	10,359	1.8
Estimated Cost to Completion	60,641	10.2

MONTHLY EXPENDITURES FY 1979 ($1000)

	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Monthly Projected:	3	3	3	3	15	14	15	12	12	12	10	8
Monthly Actual:	10*	8*	-18*	11								



*Project was inadvertently overcharged for October and November. This error was corrected with a credit in December, bringing the total expenditures to 0 as of December 31.

**Shaded areas represent projected costs; stippled areas represent actual costs.

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