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INTERIM REPORT

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Contract Program or Project Title: Safeguards Analysis for Byproduct Materials and Small Quantities of SNM

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This document was prepared primarily for preliminary or internal use. It has not received full review and approval. Since there may be substantive changes, this document should not be considered final.

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Union Carbide Corporation
for the
U. S. Department of Energy

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NRC Research and Technical
Assistance Report 7909240769

MONTHLY PROGRESS REPORT
FOR May 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:

Subtask 1a (Calculate health effects for materials identified in Phase 1)
On schedule.

Subtask 1b (Detailed description of delivery methods and conditions in Phase 1)

This task is being re-examined and further documentation sought, as suggested during Program Review meeting.

Subtask 1c (Literature review of acceptability of involuntary risk of cancer induction)

Expansion of first draft report is in progress.

Subtask 1d (Description of impact of meteorology on threat)

Consultation with local meteorology specialist is continuing.

Subtask 1e (Table of Phase 1 material screening results)

Table and description of Phase I screening results was delivered several months ago. Preliminary draft of a new table, based more directly on health effects (as suggested during Program Review) is being prepared.

Subtask 1f (Project status reports, quarterly and final)

Review of project status given orally at Program Review Meeting. Draft of minutes of the meeting sent to NRC. After review of minutes by NRC these are to become a basis for quarterly report.

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Subtask 1g (Develop plan for obtaining information from sources/licensees)

Original plan as outlined in October 30, 1978 letter to Holz is being re-examined.

Subtask 2a (Clearances to contact sources/licensees)

Results of pending subtask 1g need to be reviewed and approved by NRC before clearances can be processed.

Subtask 2b (Prepare list of sources/licensees)

Original list given in October 30, 1978 letter to Holz is being re-examined.

Subtasks 2c, 2d and 2e (Initiate contact with sources/licensees; prepare updated list of materials to be analyzed; and analyze possible threat of materials on updated list)

These subtasks are not scheduled to start until later.

Meetings:

A Program Review meeting was held at NRC in Washington all day on June 14, 1979. In attendance from ORNL were R. O. Chester, M. L. Randolph and P. S. Rohwer. A draft of minutes of this meeting has been prepared.

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BUDGET AND TECHNICAL MANPOWER EXPENDITURES (FY 1979)

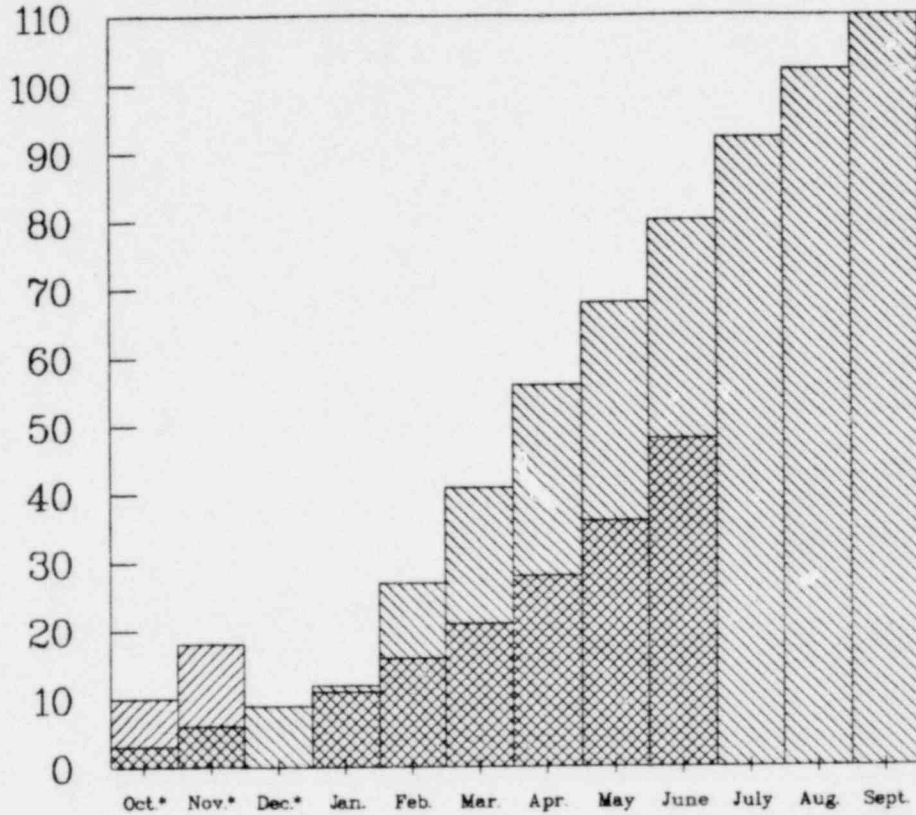
<u>Reporting Period</u>	<u>Project Costs, \$</u>	<u>Technical Support, Man-months</u>
June 1979	11,971	2.0
Total to Date	47,649	8.7
Estimated Cost to Completion	62,351	8.1

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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	5	5	7	8	12			

Total Expenditures**
(thousands of dollars)



POOR ORIGINAL

1978

1979

Months FY 1979

*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.

**Areas with shading sloping downward from left to right represent projected costs; areas with shading sloping upward represent actual costs.

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