

For

OAK RIDGE NATIONAL LABORATORY

OPERATED BY

UNION CARBIDE CORPORATION

NUCLEAR DIVISION



POST OFFICE BOX X

OAK RIDGE, TENNESSEE 37830

May 10, 1983

Mr. H. J. Bicehouse
Transportation and Materials Risk Branch
Division of Risk Analysis
Office of Nuclear Regulatory Research
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Bicehouse:

Enclosed is the progress report for April, 1983 covering work done for the program, "Generic Study of Recycle of Contaminated Materials" (project number ORNL 40-10-01-06 [189 #B0824], NRC 60-10-01-05).

I would be pleased to answer any questions you might have regarding this project.

Sincerely,

A handwritten signature in cursive script, appearing to read "C. C. Travis".

C. C. Travis, Leader
Exposure Analysis Group
Health and Safety Research Division

CCT:lhs

Enclosure

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Progress Report for April 1983

GENERIC STUDY OF RECYCLE OF CONTAMINATED MATERIALS

PRINCIPAL INVESTIGATORS: C. C. Travis, F. R. O'Donnell, E. L. Etnier

OBJECTIVE:

1. To develop a thorough review of information on the types and quantities of contaminated materials that may be suitable for recycle after use in NRC-licensed activities.
2. To review the contamination levels present in materials for recycle and the levels to which these materials can be decontaminated.
3. To perform pathway analyses for the recycle of contaminated materials and determine associated stochastic risk.
4. To prepare a draft generic environmental impact statement on risks associated with recycle of contaminated materials.

Program tasks for this project are defined as follows:

- Task 1: Materials Database;
- Task 2: Market Potential;
- Task 3: Contamination Levels and Decontamination Potential;
- Task 4: Pathway Analysis;
- Task 5: Calculate Stochastic Dose;
- Task 6: Uncertainty and Sensitivity Analyses;
- Task 7: Benefits and Impacts;
- Task 8: Policy Options;
- Task 9: Future Research;
- Task 10: Draft Report.

ACCOMPLISHMENTS:

Task 1 - We have reviewed the list of licensee categories received from the NRC and are considering grouping them into broad categories of users (i.e., research institutions, hospitals, fuel fabrication, etc.) We are identifying the categories of materials which will most likely be recycled.

The list of licensee categories which we received from the NRC is of very little use. H. J. Bicehouse estimates that there are approximately 10,000 materials licensees, with their primary docket files maintained in Regional Offices. Rather than attempting to adequately survey these licensees, we plan to survey a small subset of licensees to arrive at an estimate of materials available for recycle.

Task 2 - We have contacted various recycling organizations and begun gathering literature on the types, quantities and value of materials currently recycled in the United States. The organizations we have contacted are:

National Association of Recycling Industries
330 Madison Avenue
New York, New York 10017

National Recycling Coalition
45 Rockefeller Plaza
New York, New York 10111

National Solid Wastes Management Association
1120 Connecticut Avenue, N.W.
Washington, D.C. 20036

Franklin Associates, Ltd.
Research Consultants in Resource and
Environmental Policy/Planning
Prairie Village, Kansas 66206

Task 3 - We have contacted Quadrex Corporation in Oak Ridge, Tennessee, a company actively involved in radiation decontamination procedures. A one-day seminar on decontamination techniques was attended on May 4, 1983.

Task 4 - We have not begun work on this task.

Task 5-6 - We have obtained a Monte Carlo simulation code which will be interfaced with CONDOS to estimate stochastic dose and perform uncertainty and sensitivity analysis. We are in the process of implementing this interface.

MEETINGS AND TRIPS:

C. C. Travis, Project Manager, visited H. J. Bicehouse (NRC Project Manager to review program planning (March 24, 1983).

REPORTS, PAPERS AND PUBLICATIONS:

None.

BUDGET AND MANPOWER INFORMATION:

Reporting Period	Project Costs	Technical Support (man-months)
April 1983	\$18,093	2.0