Decontamination and Decommissioning

DATA INPUT FOR HISTORICAL DATA TASK FOR RWMC SUBSURFACE DISPOSAL AREA

PART A - GENERAL INFORMATION HDT - 6

1. Preparer: Jorgensen, Doug

2. Date prepared: 07/06/93

3. Generator: D+D
(area or contractor - use code from attached list)

4. Particular facility: ARV
(building number - use code from attached list)

5. Number of waste stream from this facility:
1H

6. Waste stream:
Wood and scrap metal.

7. Type of radioactive waste (check box):
[ ] TRU or suspect TRU
[X] LLW
[ ] non-radioactive

8. Actual years disposed of at SDA:
Starting year 1980 Ending year 1980

9. Waste stream volume:
Amount 1.8200 Units Cubic meters.
Check box: [ ] annual or [X] total over all years
Check box: [X] container volume or [ ] waste volume

10. Comments (specify number of pertinent question):
4. ARV (Army Re-Entry Vehicle Facility Site).
6. Not actual D+D of ARVFS bunker, but it is junk above and around bunker including an old table, scrap metal from a tank used only as a radiation shield, and combustibles.

1. General physical form (see attached list)
Combustibles (paper, cloth, wood, etc.).
[X] other (specify)
10.

2. Details on physical form(particularly confinement related)
Scrap metal and combustibles.

3. Chemical form:
Wood, plastic, and cast iron.

4. Inner packaging: [ ] plastic bag [ ] plastic liner
[ ] metal liner [X] none [ ] other (specify)

5. Waste container type (see attached list)
Wooden box.

6. Other characteristics of interest:
None.

7. Comments (specify number of pertinent question):
None.

For each contaminant, complete at least one line on the following table. If any entries for that contaminant vary by year, fill out additional lines as needed to cover the varying entries for different years. For example, if the annual quantity disposed was x kg for 1952-56 and y kg for 1956-84, use two lines to handle this situation.

Contaminant & CAS Registry Number	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
None.										

* If sample data are available, mark Y in the column titled "Samples?" and provide number of samples in the next column and standard deviation in the next column.
If not, mark N and give the minimum value and maximum value.
Additional information or explanations (indicate pertinent contaminant)

For each contaminant, complete at least one line on the following table. If any entries for that contaminant vary by year, fill out additional lines as needed to cover the varying entries for different years. For example, if the annual quantity disposed was x kg for 1952-56 and y kg for 1956-84, use two lines to handle this situation.

Radionuclide	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Co-60	Surface contamination - contaminated dirt.	Unknown.	T .00050000000000	CI	1980	1980	N			
Sr-90	Surface contamination - contaminated dirt.	Unknown.	T .00050000000000	CI	1980	1980	N			

* If sample data are available, mark Y in the column titled "Samples?" and provide number of samples in the next column and standard deviation in the next column.
If not, mark N and give the minimum value and maximum value.
Additional information or explanations (indicate pertinent contaminant)
MAP equals Co-60; MFP equals Sr-90; best guess estimate.

PART E - SOURCES OF INFORMATION AND UNCERTAINTIES - D+D-ARV-1H

1. Type of source of information:
(check box)

[X] RWMIS [ ] other database
[ ] sample analysis data
[ ] operating records [X] interview
[ ] expert judgment [ ] reports
[ ] other

2. Details concerning source (names, report no., dates, etc.)
Interviews with Dick Messervey and Fred Stoll.

3. Do the estimates of contaminant quantities in Part C and D represent:
[X] best estimate
[ ] worst case
[ ] other

4. If other than best estimate, explain why:

5. Do the data conflict with RWMIS?
(Historical or Present Data Only)
[X] no
[ ] yes

6. If yes, explain why:

7. Major unknowns in inventories of contaminants:
None.

8. Key assumptions used to deal with the unknowns:
MAP/MFP best estimate. G-M correction is needed to the best estimate. The waste stream inventory was identified by the generator as MFP and the G-M method was used by the generator to estimate total curie content.

DATA INPUT FOR HISTORICAL DATA TASK FOR RWMC SUBSURFACE DISPOSAL AREA

PART A - GENERAL INFORMATION HDT - 29

1. Preparer: Jorgensen, Doug

2. Date prepared: 07/01/93

3. Generator: D+D
(area or contractor - use code from attached list)

4. Particular facility: BOR
(building number - use code from attached list)

5. Number of waste stream from this facility:
1H

6. Waste stream:
Soil.

7. Type of radioactive waste (check box):
[ ] TRU or suspect TRU
[X] LLW
[ ] non-radioactive

8. Actual years disposed of at SDA:
Starting year 1980 Ending year 1981

9. Waste stream volume:
Amount 15.4000 Units Cubic meters.
Check box: [ ] annual or [X] total over all years
Check box: [ ] container volume or [X] waste volume

10. Comments (specify number of pertinent question):
4. BOR - Borax V.
6. Based on interview, contaminated soil was removed from the Borax facility between the reactor building and the turbine building. Contamination reported as minimal. No other waste included in this shipment(s).

1. General physical form (see attached list)
Soil.
[ ] other (specify)

2. Details on physical form(particularly confinement related)
Soil and contaminated dirt.

3. Chemical form:
Soil.

4. Inner packaging: [ ] plastic bag [ ] plastic liner
[ ] metal liner [X] none [ ] other (specify)

5. Waste container type (see attached list)
Wooden box.

6. Other characteristics of interest:
Soil in wooden boxes.

7. Comments (specify number of pertinent question):

For each contaminant, complete at least one line on the following table. If any entries for that contaminant vary by year, fill out additional lines as needed to cover the varying entries for different years. For example, if the annual quantity disposed was x kg for 1952-56 and y kg for 1956-84, use two lines to handle this situation.

Contaminant & CAS Registry Number	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
None.										

* If sample data are available, mark Y in the column titled "Samples?" and provide number of samples in the next column and standard deviation in the next column.
If not, mark N and give the minimum value and maximum value.
Additional information or explanations (indicate pertinent contaminant)
None reported or suspected.

For each contaminant, complete at least one line on the following table. If any entries for that contaminant vary by year, fill out additional lines as needed to cover the varying entries for different years. For example, if the annual quantity disposed was x kg for 1952-56 and y kg for 1956-84, use two lines to handle this situation.

Radionuclide	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Co-60	Soil/surface contamination.	Unknown.	T .00060000000000	CI	1980	1981	N			
Sr-90	Soil/surface contamination.	Unknown.	T .00255000000000	CI	1980	1981	N			

* If sample data are available, mark Y in the column titled "Samples?" and provide number of samples in the next column and standard deviation in the next column.
If not, mark N and give the minimum value and maximum value.
Additional information or explanations (indicate pertinent contaminant)
MAP equals Co-60, MFP equals Sr-90, based on process knowledge best estimate.

1. Type of source of information:
(check box)

[X] RWMIS [ ] other database
[ ] sample analysis data
[ ] operating records [X] interview
[ ] expert judgment [ ] reports
[ ] other

2. Details concerning source (names, report no., dates, etc.)
Interview with Dick Messervey, no reports available.

3. Do the estimates of contaminant quantities in Part C and D represent:
[X] best estimate
[ ] worst case
[ ] other

4. If other than best estimate, explain why:

5. Do the data conflict with RWMIS?
(Historical or Present Data Only)
[X] no
[ ] yes

6. If yes, explain why:

7. Major unknowns in inventories of contaminants:
None.

8. Key assumptions used to deal with the unknowns:
MAP/MFP determination. G-M correction is needed to the best estimate. The waste stream inventory was identified by the generator as MFP and the G-M method was used by the generator to estimate total curie content.

DATA INPUT FOR HISTORICAL DATA TASK FOR RWMC SUBSURFACE DISPOSAL AREA

PART A - GENERAL INFORMATION HDT - 28

1. Preparer: Jorgensen, Doug

2. Date prepared: 07/01/93

3. Generator: D+D
(area or contractor - use code from attached list)

4. Particular facility: IET
(building number - use code from attached list)

5. Number of waste stream from this facility:
1H

6. Waste stream:
Heat exchangers, pump cases, pump diffuser and impeller.

7. Type of radioactive waste (check box):
[ ] TRU or suspect TRU
[X] LLW
[ ] non-radioactive

8. Actual years disposed of at SDA:
Starting year 1979 Ending year 1979

9. Waste stream volume:
Amount 67.9500 Units Cubic meters.
Check box: [ ] annual or [X] total over all years
Check box: [ ] container volume or [X] waste volume

10. Comments (specify number of pertinent question):
4. IET - Initial Engine Test Facility
6. Sodium was removed as a processing operation in a liquid solution and disposed of at the TAN acid pit.

1. General physical form (see attached list)
Other scrap metals.
[ ] other (specify)

2. Details on physical form(particularly confinement related)
Pump casing, heat exchanger, and diffusers.

3. Chemical form:
Metal alloys.

4. Inner packaging: [ ] plastic bag [ ] plastic liner
[ ] metal liner [X] none [ ] other (specify)

5. Waste container type (see attached list)
Other.

6. Other characteristics of interest:
"Other" equals bulk vessels - metal.

7. Comments (specify number of pertinent question):

For each contaminant, complete at least one line on the following table. If any entries for that contaminant vary by year, fill out additional lines as needed to cover the varying entries for different years. For example, if the annual quantity disposed was x kg for 1952-56 and y kg for 1956-84, use two lines to handle this situation.

Contaminant & CAS Registry Number	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
7440-23-5 Sodium	Unknown.	Unknown.	Unknown.	GM	1979	1979				

* If sample data are available, mark Y in the column titled "Samples?" and provide number of samples in the next column and standard deviation in the next column.
If not, mark N and give the minimum value and maximum value.
Additional information or explanations (indicate pertinent contaminant)
Nearly all of the sodium was removed, but ten's of grams are believed to remain in the components that went to the RWMC.

For each contaminant, complete at least one line on the following table. If any entries for that contaminant vary by year, fill out additional lines as needed to cover the varying entries for different years. For example, if the annual quantity disposed was x kg for 1952-56 and y kg for 1956-84, use two lines to handle this situation.

Radionuclide	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Co-60	Metal/surface contamination.	Unknown.	T 3.3200000000000	CI	1979	1979	N			
Cs-137	Metal/surface contamination.	Unknown.	T .66000000000000	CI	1979	1979	N			

* If sample data are available, mark Y in the column titled "Samples?" and provide number of samples in the next column and standard deviation in the next column.
If not, mark N and give the minimum value and maximum value.
Additional information or explanations (indicate pertinent contaminant)

1. Type of source of information:
(check box)

[X] RWMIS [ ] other database
[ ] sample analysis data
[ ] operating records [X] interview
[ ] expert judgment [X] reports
[ ] other

2. Details concerning source (names, report no., dates, etc.)
TREE-1368, "Sodium Removal from Hallam Reactor Components".
Interview with Dick Messervey.
Discussions with H.K. Peterson.

3. Do the estimates of contaminant quantities in Part C and D represent:
[X] best estimate
[ ] worst case
[ ] other

4. If other than best estimate, explain why:

5. Do the data conflict with RWMIS?
(Historical or Present Data Only)
[X] no
[ ] yes

6. If yes, explain why:

7. Major unknowns in inventories of contaminants:
None.

8. Key assumptions used to deal with the unknowns:
All but negligible quantity of Na removed from materials prior to shipment at RWMC.

DATA INPUT FOR HISTORICAL DATA TASK FOR RWMC SUBSURFACE DISPOSAL AREA

PART A - GENERAL INFORMATION HDT - 69

1. Preparer: Jorgensen, Doug

2. Date prepared: 06/30/93

3. Generator: D+D
(area or contractor - use code from attached list)

4. Particular facility: LOF
(building number - use code from attached list)

5. Number of waste stream from this facility:
1H

6. Waste stream:
Cloth, paper compactibles, and LOF-0185.

7. Type of radioactive waste (check box):
[ ] TRU or suspect TRU
[X] LLW
[ ] non-radioactive

8. Actual years disposed of at SDA:
Starting year 1983 Ending year 1983

9. Waste stream volume:
Amount 0.7929 Units Cubic meters.
Check box: [ ] annual or [X] total over all years
Check box: [X] container volume or [ ] waste volume

10. Comments (specify number of pertinent question):
4. This waste is from the D+D of LOF-620.

1. General physical form (see attached list)
Combustibles (paper, cloth, wood, etc.).
[ ] other (specify)

2. Details on physical form(particularly confinement related)
Solid waste generated from cleanup of facility.

3. Chemical form:
Solid.

4. Inner packaging: [ ] plastic bag [ ] plastic liner
[ ] metal liner [X] none [ ] other (specify)

5. Waste container type (see attached list)
Bale.

6. Other characteristics of interest:

7. Comments (specify number of pertinent question):
Twenty each 1.4 cu ft. BLXs.

For each contaminant, complete at least one line on the following table. If any entries for that contaminant vary by year, fill out additional lines as needed to cover the varying entries for different years. For example, if the annual quantity disposed was x kg for 1952-56 and y kg for 1956-84, use two lines to handle this situation.

Contaminant & CAS Registry Number	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
None.										

* If sample data are available, mark Y in the column titled "Samples?" and provide number of samples in the next column and standard deviation in the next column.
If not, mark N and give the minimum value and maximum value.
Additional information or explanations (indicate pertinent contaminant)

For each contaminant, complete at least one line on the following table. If any entries for that contaminant vary by year, fill out additional lines as needed to cover the varying entries for different years. For example, if the annual quantity disposed was x kg for 1952-56 and y kg for 1956-84, use two lines to handle this situation.

Radionuclide	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Co-58	Solid.	N/A.	T .00150000000000	CI	1983	1983	N			
Co-60	Solid.	N/A.	T .00600000000000	CI	1983	1983	N			

* If sample data are available, mark Y in the column titled "Samples?" and provide number of samples in the next column and standard deviation in the next column.
If not, mark N and give the minimum value and maximum value.
Additional information or explanations (indicate pertinent contaminant)
MAP equals 1/2 Co-58 and 1/2 Co-60, based on best guess estimate.

1. Type of source of information:
(check box)

[X] RWMIS [ ] other database
[ ] sample analysis data
[ ] operating records [ ] interview
[ ] expert judgment [ ] reports
[ ] other

2. Details concerning source (names, report no., dates, etc.)
None.

3. Do the estimates of contaminant quantities in Part C and D represent:
[X] best estimate
[ ] worst case
[ ] other

4. If other than best estimate, explain why:

5. Do the data conflict with RWMIS?
(Historical or Present Data Only)
[X] no
[ ] yes

6. If yes, explain why:

7. Major unknowns in inventories of contaminants:
No physical form description - MAP breakdown.

8. Key assumptions used to deal with the unknowns:
No hazardous material present, form is solid. MAP determination.

DATA INPUT FOR HISTORICAL DATA TASK FOR RWMC SUBSURFACE DISPOSAL AREA

PART A - GENERAL INFORMATION HDT - 70

1. Preparer: Jorgensen, Doug

2. Date prepared: 06/30/93

3. Generator: D+D
(area or contractor - use code from attached list)

4. Particular facility: LOF
(building number - use code from attached list)

5. Number of waste stream from this facility:
2H

6. Waste stream:
Paper, poly, and rags D-151.

7. Type of radioactive waste (check box):
[ ] TRU or suspect TRU
[X] LLW
[ ] non-radioactive

8. Actual years disposed of at SDA:
Starting year 1982 Ending year 1982

9. Waste stream volume:
Amount 8.0430 Units Cubic meters.
Check box: [ ] annual or [X] total over all years
Check box: [X] container volume or [ ] waste volume

10. Comments (specify number of pertinent question):
4. This waste is from the D+D of LOF-629.

1. General physical form (see attached list)
Combustibles (paper, cloth, wood, etc.).
[X] other (specify)
44.

2. Details on physical form(particularly confinement related)
Solid waste generated from cleanup of the facility.

3. Chemical form:
Solid.

4. Inner packaging: [ ] plastic bag [ ] plastic liner
[ ] metal liner [ ] none [X] other (specify)
Unknown.

5. Waste container type (see attached list)
BLX*.

6. Other characteristics of interest:

7. Comments (specify number of pertinent question):
5. BXW. Twenty each 1.4 cu ft. BLXs, and 2 each 128 cu ft. BXWs.

For each contaminant, complete at least one line on the following table. If any entries for that contaminant vary by year, fill out additional lines as needed to cover the varying entries for different years. For example, if the annual quantity disposed was x kg for 1952-56 and y kg for 1956-84, use two lines to handle this situation.

Contaminant & CAS Registry Number	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
None.										

* If sample data are available, mark Y in the column titled "Samples?" and provide number of samples in the next column and standard deviation in the next column.
If not, mark N and give the minimum value and maximum value.
Additional information or explanations (indicate pertinent contaminant)

For each contaminant, complete at least one line on the following table. If any entries for that contaminant vary by year, fill out additional lines as needed to cover the varying entries for different years. For example, if the annual quantity disposed was x kg for 1952-56 and y kg for 1956-84, use two lines to handle this situation.

Radionuclide	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Co-58	Solid.	N/A.	A .03150000000000	CI	1982	1982	N			
Co-60	Solid.	N/A.	A .10000000000000	CI	1982	1982	N			

* If sample data are available, mark Y in the column titled "Samples?" and provide number of samples in the next column and standard deviation in the next column.
If not, mark N and give the minimum value and maximum value.
Additional information or explanations (indicate pertinent contaminant)

1. Type of source of information:
(check box)

[X] RWMIS [ ] other database
[ ] sample analysis data
[ ] operating records [ ] interview
[ ] expert judgment [ ] reports
[ ] other

2. Details concerning source (names, report no., dates, etc.)

3. Do the estimates of contaminant quantities in Part C and D represent:
[X] best estimate
[ ] worst case
[ ] other

4. If other than best estimate, explain why:

5. Do the data conflict with RWMIS?
(Historical or Present Data Only)
[X] no
[ ] yes

6. If yes, explain why:

7. Major unknowns in inventories of contaminants:
No information available indicating nature and extent of hazardous chemical waste inventories.

8. Key assumptions used to deal with the unknowns:
RWMIS is accurate.

DATA INPUT FOR HISTORICAL DATA TASK FOR RWMC SUBSURFACE DISPOSAL AREA

PART A - GENERAL INFORMATION HDT - 71

1. Preparer: Jorgensen, Doug

2. Date prepared: 06/30/93

3. Generator: D+D
(area or contractor - use code from attached list)

4. Particular facility: LOF
(building number - use code from attached list)

5. Number of waste stream from this facility:
3H

6. Waste stream:
Paper, cloth, compactible LOF-02.

7. Type of radioactive waste (check box):
[ ] TRU or suspect TRU
[X] LLW
[ ] non-radioactive

8. Actual years disposed of at SDA:
Starting year 1981 Ending year 1983

9. Waste stream volume:
Amount 4.3600 Units Cubic meters.
Check box: [ ] annual or [X] total over all years
Check box: [X] container volume or [ ] waste volume

10. Comments (specify number of pertinent question):
4. This waste is from the D+D of LOF-630.

1. General physical form (see attached list)
Combustibles (paper, cloth, wood, etc.).
[ ] other (specify)

2. Details on physical form(particularly confinement related)
Solid waste generated from cleanup of facility.

3. Chemical form:
Solid.

4. Inner packaging: [ ] plastic bag [ ] plastic liner
[ ] metal liner [ ] none [X] other (specify)
Unknown.

5. Waste container type (see attached list)
Bale.

6. Other characteristics of interest:

7. Comments (specify number of pertinent question):

For each contaminant, complete at least one line on the following table. If any entries for that contaminant vary by year, fill out additional lines as needed to cover the varying entries for different years. For example, if the annual quantity disposed was x kg for 1952-56 and y kg for 1956-84, use two lines to handle this situation.

Contaminant & CAS Registry Number	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
None.										

* If sample data are available, mark Y in the column titled "Samples?" and provide number of samples in the next column and standard deviation in the next column.
If not, mark N and give the minimum value and maximum value.
Additional information or explanations (indicate pertinent contaminant)

For each contaminant, complete at least one line on the following table. If any entries for that contaminant vary by year, fill out additional lines as needed to cover the varying entries for different years. For example, if the annual quantity disposed was x kg for 1952-56 and y kg for 1956-84, use two lines to handle this situation.

Radionuclide	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Co-58	Solid.	Unknown.	T .01004000000000	CI	1981	1981	N			
Co-60	Solid.	Unknown.	T .01004000000000	CI	1981	1981	N			
Co-58	Solid.	Unknown.	T .00100000000000	CI	1983	1983	N			
Co-60	Solid.	Unknown.	T .00100000000000	CI	1983	1983	N			

* If sample data are available, mark Y in the column titled "Samples?" and provide number of samples in the next column and standard deviation in the next column. If not, mark N and give the minimum value and maximum value.

Additional information or explanations (indicate pertinent contaminant)

MAP equals 1/2 Co-58 and 1/2 Co-60, based on best guess estimate.

1. Type of source of information:
(check box)

[X] RWMIS [ ] other database
[ ] sample analysis data
[ ] operating records [ ] interview
[ ] expert judgment [ ] reports
[ ] other

2. Details concerning source (names, report no., dates, etc.)
None.

3. Do the estimates of contaminant quantities in Part C and D represent:
[X] best estimate
[ ] worst case
[ ] other

4. If other than best estimate, explain why:

5. Do the data conflict with RWMIS?
(Historical or Present Data Only)
[X] no
[ ] yes

6. If yes, explain why:

7. Major unknowns in inventories of contaminants:
Percentage of Co-58 and Co-60 in MAP. No other data available on inventories.

8. Key assumptions used to deal with the unknowns:
Co-58 and Co-60 are equal.

DATA INPUT FOR HISTORICAL DATA TASK FOR RWMC SUBSURFACE DISPOSAL AREA

PART A - GENERAL INFORMATION HDT - 7

1. Preparer: Jorgensen, Doug

2. Date prepared: 07/07/93

3. Generator: D+D
(area or contractor - use code from attached list)

4. Particular facility: OMR
(building number - use code from attached list)

5. Number of waste stream from this facility:
1H

6. Waste stream:
Metal, concrete, and soil.

7. Type of radioactive waste (check box):
[ ] TRU or suspect TRU
[X] LLW
[ ] non-radioactive

8. Actual years disposed of at SDA:
Starting year 1978 Ending year 1982

9. Waste stream volume:
Amount 1440.0000 Units Cubic meters.
Check box: [ ] annual or [ ] total over all years
Check box: [X] container volume or [ ] waste volume

10. Comments (specify number of pertinent question):
4. OMR (D+D of the Organic Moderated Reactor Experiment Facility).
9. RWMIS reports 1312 m3 volume, reports indicate 1444 m3 disposed. Discrepancy may be difference between container volume and waste volume. Reporting container volume as discussed in report.

1. General physical form (see attached list)
Concrete, brick, and asphalt.
[X] other (specify)
43.

2. Details on physical form(particularly confinement related)
Concrete, soil, scrap metal, reactor components, and piping.

3. Chemical form:
Metal, soil, and concrete.

4. Inner packaging: [X] plastic bag [ ] plastic liner
[ ] metal liner [ ] none [X] other (specify)
See 7 below.

5. Waste container type (see attached list)
Wooden box*.

6. Other characteristics of interest:
None.

7. Comments (specify number of pertinent question):
5. "Other".
4, and 6. If articles could not be put into boxes they were sealed in plastic and shipped to RWMC.
"Other" (for waste container type) denotes wrapped in plastic.

For each contaminant, complete at least one line on the following table. If any entries for that contaminant vary by year, fill out additional lines as needed to cover the varying entries for different years. For example, if the annual quantity disposed was x kg for 1952-56 and y kg for 1956-84, use two lines to handle this situation.

Contaminant & CAS Registry Number	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
1332-21-4 Asbestos	Pipe sleeve.	Unknown.	Unknown.	GM	1978	1982	N			

* If sample data are available, mark Y in the column titled "Samples?" and provide number of samples in the next column and standard deviation in the next column.
If not, mark N and give the minimum value and maximum value.
Additional information or explanations (indicate pertinent contaminant)
Asbestos shown covering much of the piping shipped. No means of determining volume of asbestos or asbestos type in the waste stream.

For each contaminant, complete at least one line on the following table. If any entries for that contaminant vary by year, fill out additional lines as needed to cover the varying entries for different years. For example, if the annual quantity disposed was x kg for 1952-56 and y kg for 1956-84, use two lines to handle this situation.

Radionuclide	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Am-241	Solid.	Contaminated soil, concrete and scrap metal.	T .00000057600000	CI	1978	1982	N	-50%	+50%	
Co-60	Solid.	Contaminated soil, concrete and scrap metal.	T 30.201024000000	CI	1978	1982	N	-50%	+50%	
Cs-137	Solid.	Contaminated soil, concrete and scrap metal.	T 4.9796000000000	CI	1978	1982	N	-50%	+50%	
Eu-152	Solid.	Contaminated soil, concrete and scrap metal.	T .00001760000000	CI	1978	1982	N	-50%	+50%	
Eu-155	Solid.	Contaminated soil, concrete and scrap metal.	T .00000733200000	CI	1978	1982	N	-50%	•50%	
Pu-238	Solid.	Contaminated soil, concrete and scrap metal.	T .00132240000000	CI	1978	1982	N	-50%	•50%	
Sr-90	Solid.	Contaminated soil, concrete and scrap metal.	T 4.9740600000000	CI	1978	1982	N	-50%	+50%	
U-235	Solid.	Contaminated soil, concrete and scrap metal.	T .00001472000000	CI	1978	1982	N	-50%	+50%	

* If sample data are available, mark Y in the column titled "Samples?" and provide number of samples in the next column and standard deviation in the next column.
If not, mark N and give the minimum value and maximum value.
Additional information or explanations (indicate pertinent contaminant)
MAP equals Co-60, MFP equals 1/2 Cs-137 based on process information. Unidentified alpha included with Pu-238 reported curies.

1. Type of source of information:
(check box)

[X] RWMIS [ ] other database
[ ] sample analysis data
[ ] operating records [X] interview
[ ] expert judgment [X] reports
[ ] other

2. Details concerning source (names, report no., dates, etc.)
Report - "D+D of the Organic Moderated Reactor Experiment Facility", (OMRE) EGG-2059. Interview with Dick Messervey.

3. Do the estimates of contaminant quantities in Part C and D represent:
[X] best estimate
[ ] worst case
[ ] other

4. If other than best estimate, explain why:

5. Do the data conflict with RWMIS?
(Historical or Present Data Only)
[ ] no
[X] yes

6. If yes, explain why:
Differences in volumes from RWMIS versus reports.

7. Major unknowns in inventories of contaminants:
Asbestos percentage included in shipments.

8. Key assumptions used to deal with the unknowns:
MAP, MFP and UN-ID-ALPHA determination. No G-M correction is needed to the best estimate. The waste stream curie content and specific radionuclides were determined by means of the generator's analytical methods prior to shipping. Upper and lower bounds are estimated based on waste expert's judgment.

DATA INPUT FOR HISTORICAL DATA TASK FOR RWMC SUBSURFACE DISPOSAL AREA

PART A - GENERAL INFORMATION HDT - 27

1. Preparer: Jorgensen, Doug

2. Date prepared: 07/02/93

3. Generator: D+D
(area or contractor - use code from attached list)

4. Particular facility: S1G
(building number - use code from attached list)

5. Number of waste stream from this facility:
1H

6. Waste stream:
Deconned reactor vessel and processing equipment, components and piping.

7. Type of radioactive waste (check box):
[ ] TRU or suspect TRU
[X] LLW
[ ] non-radioactive

8. Actual years disposed of at SDA:
Starting year 1983 Ending year 1983

9. Waste stream volume:
Amount 65.2400 Units Cubic meters.
Check box: [ ] annual or [X] total over all years
Check box: [ ] container volume or [X] waste volume

10. Comments (specify number of pertinent question):
4. S1G - Reactor Vessel Decomm.
6. Deconned reactor vessel (primarily) with Na removed from the vessel. No Na included in shipment.

1. General physical form (see attached list)
Other core,reactor vessel,loop component
[ ] other (specify)

2. Details on physical form(particularly confinement related)
Reactor vessel and components.

3. Chemical form:
Metal.

4. Inner packaging: [ ] plastic bag [ ] plastic liner
[ ] metal liner [X] none [ ] other (specify)

5. Waste container type (see attached list)
Other.

6. Other characteristics of interest:

7. Comments (specify number of pertinent question):
5. Other equals reactor vessel, not packaged.

For each contaminant, complete at least one line on the following table. If any entries for that contaminant vary by year, fill out additional lines as needed to cover the varying entries for different years. For example, if the annual quantity disposed was x kg for 1952-56 and y kg for 1956-84, use two lines to handle this situation.

Contaminant & CAS Registry Number	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
None.										

* If sample data are available, mark Y in the column titled "Samples?" and provide number of samples in the next column and standard deviation in the next column. If not, mark N and give the minimum value and maximum value.

Additional information or explanations (indicate pertinent contaminant)

Decontamination and decommissioning involved removal of Na from vessel. No other hazardous material suspected. Any remaining Na considered negligible.

For each contaminant, complete at least one line on the following table. If any entries for that contaminant vary by year, fill out additional lines as needed to cover the varying entries for different years. For example, if the annual quantity disposed was x kg for 1952-56 and y kg for 1956-84, use two lines to handle this situation.

Radionuclide	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Co-60	Activated metal.	Unknown.	T 1539.4000000000	CI	1983	1983	N	-50%	+50%	
Fe-55	Activated metal.	Unknown.	T 61.000000000000	CI	1983	1983	N	-50%	+50%	
H-3	Activated metal.	Unknown.	T 3300.0000000000	CI	1983	1983	N	-50%	+50%	
Nb-94	Activated metal.	Unknown.	T 2.0000000000000	CI	1983	1983	N	-50%	+50%	
Ni-59	Activated metal.	Unknown.	T 4.0000000000000	CI	1983	1983	N	-50%	+50%	
Ni-63	Activated metal.	Unknown.	T 673.00000000000	CI	1983	1983	N	-50%	+50%	

* If sample data are available, mark Y in the column titled "Samples?" and provide number of samples in the next column and standard deviation in the next column. If not, mark N and give the minimum value and maximum value.

Additional information or explanations (indicate pertinent contaminant)

The chemical form for these radionuclides is reported to be "unknown - assumed predominantly as surface contamination and oxides". MAP considered as Co-60 and rolled into Co-60 curies based on information that it is a typical activation product.

1. Type of source of information:
(check box)

[X] RWMIS [ ] other database
[ ] sample analysis data
[ ] operating records [X] interview
[ ] expert judgment [X] reports
[ ] other

2. Details concerning source (names, report no., dates, etc.)
EGG-2298, Reactor Vessel Decommissioning Project.
Interview with Dick Messervey.

3. Do the estimates of contaminant quantities in Part C and D represent:
[X] best estimate
[ ] worst case
[ ] other

4. If other than best estimate, explain why:

5. Do the data conflict with RWMIS?
(Historical or Present Data Only)
[X] no
[ ] yes

6. If yes, explain why:

7. Major unknowns in inventories of contaminants:
None.

8. Key assumptions used to deal with the unknowns:
MAP determination. No G-M correction is needed to the best estimate. The waste stream curie content and specific radionuclides were determined by means of the generator's analytical methods prior to shipping. Upper and lower bounds are estimated based on waste expert's judgment.

DATA INPUT FOR HISTORICAL DATA TASK FOR RWMC SUBSURFACE DISPOSAL AREA

PART A - GENERAL INFORMATION HDT - 5

1. Preparer: Jorgensen, Doug

2. Date prepared: 06/22/93

3. Generator: D+D
(area or contractor - use code from attached list)

4. Particular facility: SPT
(building number - use code from attached list)

5. Number of waste stream from this facility:
1H

6. Waste stream:
Piping, tanks, and valves.

7. Type of radioactive waste (check box):
[ ] TRU or suspect TRU
[X] LLW
[ ] non-radioactive

8. Actual years disposed of at SDA:
Starting year 1979 Ending year 1979

9. Waste stream volume:
Amount 66.2000 Units Cubic meters.
Check box: [ ] annual or [X] total over all years
Check box: [ ] container volume or [X] waste volume

10. Comments (specify number of pertinent question):
4. Includes Decon. and Decom. of SPERT-IV.

1. General physical form (see attached list)
Other scrap metals.
[ ] other (specify)

2. Details on physical form(particularly confinement related)
Plate stainless steel, cast iron and aluminum.

3. Chemical form:
Steel, iron and aluminum.

4. Inner packaging: [ ] plastic bag [ ] plastic liner
[ ] metal liner [X] none [ ] other (specify)

5. Waste container type (see attached list)
Wooden box*.

6. Other characteristics of interest:

7. Comments (specify number of pertinent question):
5. "Other" is heat exchanger wrapped with Herculite and taped.

For each contaminant, complete at least one line on the following table. If any entries for that contaminant vary by year, fill out additional lines as needed to cover the varying entries for different years. For example, if the annual quantity disposed was x kg for 1952-56 and y kg for 1956-84, use two lines to handle this situation.

Contaminant & CAS Registry Number	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
1332-21-4 Asbestos	Pipe covering.	Unknown.	Unknown.	GM	1979	1979	N			

* If sample data are available, mark Y in the column titled "Samples?" and provide number of samples in the next column and standard deviation in the next column.
If not, mark N and give the minimum value and maximum value.
Additional information or explanations (indicate pertinent contaminant)
Total quantity is unknown. Photos of piping systems show probable asbestos covering. This cannot be confirmed nor can a volume be determined.

For each contaminant, complete at least one line on the following table. If any entries for that contaminant vary by year, fill out additional lines as needed to cover the varying entries for different years. For example, if the annual quantity disposed was x kg for 1952-56 and y kg for 1956-84, use two lines to handle this situation.

Radionuclide	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Co-60	Metal.	Surface contamination.	T .00137500000000	CI	1979	1979	N			
Cs-137	Metal.	Surface contamination.	T .00069000000000	CI	1979	1979	N			
Sr-90	Metal.	Surface contamination.	T .00068000000000	CI	1979	1979	N			

* If sample data are available, mark Y in the column titled "Samples?" and provide number of samples in the next column and standard deviation in the next column.
If not, mark N and give the minimum value and maximum value.
Additional information or explanations (indicate pertinent contaminant)
MAP equals Co-60; MFP equals 1/2 Cs-137; 1/2 Sr-90 based on isotopes detected/analyzed for in D+D report.

1. Type of source of information:
(check box)

[X] RWMIS [ ] other database
[ ] sample analysis data
[ ] operating records [X] interview
[ ] expert judgment [X] reports
[ ] other

2. Details concerning source (names, report no., dates, etc.)
TREE-1373, "Final Report SPERT-IV Decontamination and Decommissioning". Interview with Dick Messervey.

3. Do the estimates of contaminant quantities in Part C and D represent:
[X] best estimate
[ ] worst case
[ ] other

4. If other than best estimate, explain why:

5. Do the data conflict with RWMIS?
(Historical or Present Data Only)
[X] no
[ ] yes

6. If yes, explain why:

7. Major unknowns in inventories of contaminants:
None.

8. Key assumptions used to deal with the unknowns:
MAP/MFP actual isotopes. G-M correction is needed to the best estimate. The waste stream inventory was identified by the generator as MFP and the G-M method was used by the generator to estimate total curie content.

DATA INPUT FOR HISTORICAL DATA TASK FOR RWMC SUBSURFACE DISPOSAL AREA

PART A - GENERAL INFORMATION HDT - 4

1. Preparer: Jorgensen, Doug

2. Date prepared: 07/01/93

3. Generator: D+D
(area or contractor - use code from attached list)

4. Particular facility: TAN*
(building number - use code from attached list)

5. Number of waste stream from this facility:
1H

6. Waste stream:
PM-2A Underground Tanks PM-2A Liquid waste evaporator system and TSF-3 concrete pad.

7. Type of radioactive waste (check box):
[ ] TRU or suspect TRU
[X] LLW
[ ] non-radioactive

8. Actual years disposed of at SDA:
Starting year 1981 Ending year 1982

9. Waste stream volume:
Amount 494.3800 Units Cubic meters.
Check box: [ ] annual or [X] total over all years
Check box: [X] container volume or [ ] waste volume

10. Comments (specify number of pertinent question):
4. This form includes three RWMIS D+D listings plus D and D of TSF-3 concrete pad at TAN. All included on one form because of similarity in process and suggest RWMIS listing be changed just for TAN.
4.* Includes D+DTAN, D+DTAN and D+D616 in RWMIS and includes TSF-3 concrete pad.
9. The 494.38 m3 volume is the total volume from the RWMIS listing (D+D616, D+DPM2 and D+DTAN). Three reports of D and D operations at TAN list a total container volume of 427.07 m3, which is 95.5% of the RWMIS volume reported. Facilities included in TAN are D+DTAN, D+DPM2, D+D616 in RWMIS.

1. General physical form (see attached list)
Other scrap metals.
[X] other (specify)
13, 21, 41, 43, 44, 45, 15, 47 and other.

2. Details on physical form(particularly confinement related)
Steel, stainless steel, galvanized steel tanks and pipe, solidified liquid NOS (in concrete) and soil and concrete.

3. Chemical form:
Asbestos, steel, copper, diatomaceous earth, plastic, rubber, concrete, wood and soil.

4. Inner packaging: [ ] plastic bag [X] plastic liner
[ ] metal liner [ ] none [X] other (specify)
See 7 below.

5. Waste container type (see attached list)
Wooden box*.

6. Other characteristics of interest:

7. Comments (specify number of pertinent question):
1. 10, 13, 21, 41, 43, 44, 45, 15, 47, and O equals dried paint.
4. Three large tanks were wrapped in plastic sheeting prior to disposal.
5. BLM and "Other".

For each contaminant, complete at least one line on the following table. If any entries for that contaminant vary by year, fill out additional lines as needed to cover the varying entries for different years. For example, if the annual quantity disposed was x kg for 1952-56 and y kg for 1956-84, use two lines to handle this situation.

Contaminant & CAS Registry Number	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
1332-21-4 Asbestos	Pipe sleeves.	Unknown.	Unknown.	GM	1981	1982	N			
7440-50-8 Copper	Copper tubing.	Cu metal.	Unknown.	GM	1981	1982	N			

* If sample data are available, mark Y in the column titled "Samples?" and provide number of samples in the next column and standard deviation in the next column. If not, mark N and give the minimum value and maximum value.

Additional information or explanations (indicate pertinent contaminant)

Asbestos insulation is present on evaporator tank from PM-2A D+D. No tank dimensions were given in order to estimate the volume of asbestos. Copper piping mentioned in waste stream, however, there are no means of determining a volume.

For each contaminant, complete at least one line on the following table. If any entries for that contaminant vary by year, fill out additional lines as needed to cover the varying entries for different years. For example, if the annual quantity disposed was x kg for 1952-56 and y kg for 1956-84, use two lines to handle this situation.

Radionuclide	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Co-60	Metal.	Unknown.	T .08448000000000	CI	1981	1982	N	-50%	+50%	
Cs-134	Metal.	Unknown.	T .08106000000000	CI	1981	1982	N	-50%	+50%	
Cs-137	Metal.	Unknown.	T 56.927000000000	CI	1981	1982	N	-50%	+50%	
Sr-90	Metal.	Unknown.	T 8.5001000000000	CI	1981	1982	N	-50%	+50%	
U-235	Metal.	N/A.	T .00017500000000	CI	1981	1982	N	-50%	+50%	

* If sample data are available, mark Y in the column titled "Samples?" and provide number of samples in the next column and standard deviation in the next column.
If not, mark N and give the minimum value and maximum value.
Additional information or explanations (indicate pertinent contaminant)
Unidentified alpha included with U-235, MFP equals 1/2 Sr-90, 1/2 Cs-137 based on process information.

1. Type of source of information:
(check box)

[X] RWMIS [ ] other database
[ ] sample analysis data
[ ] operating records [ ] interview
[ ] expert judgment [X] reports
[ ] other

2. Details concerning source (names, report no., dates, etc.)
1. EG&G-2236, "Final Report Decon. & Decomm. of TAN Radioactive Liquid Waste Evaporator System" (PM-2A).
2. EG&G-2292, "Final Report Decon. & Decomm. of the TAN/TSF-3 Concrete Pads".
3. PR-W-80-018, "PM-2A Radiological Characterization".

3. Do the estimates of contaminant quantities in Part C and D represent:
[X] best estimate
[ ] worst case
[ ] other

4. If other than best estimate, explain why:

5. Do the data conflict with RWMIS?
(Historical or Present Data Only)
[X] no
[ ] yes

6. If yes, explain why:
Volume in reports is within 95.5 % of RWMIS volume.

7. Major unknowns in inventories of contaminants:
Asbestos and copper volumes can not be accurately estimated.

8. Key assumptions used to deal with the unknowns:
MAP/MFP determination. No G-M correction is needed to the best estimate. The waste stream curie content and specific radionuclides were determined by means of the generator's analytical methods prior to shipping. Upper and lower bounds are estimated based on waste expert's judgment.

Loss-of-Fluid Test Reactor

DATA INPUT FOR HISTORICAL DATA TASK FOR RWMC SUBSURFACE DISPOSAL AREA

PART A - GENERAL INFORMATION HDT - 73

1. Preparer: Jorgensen, Doug

2. Date prepared: 06/30/93

3. Generator: LOF
(area or contractor - use code from attached list)

4. Particular facility: 650
(building number - use code from attached list)

5. Number of waste stream from this facility:
1H

6. Waste stream:
Combustibles (paper, cloth, wood, etc.).

7. Type of radioactive waste (check box):
[ ] TRU or suspect TRU
[X] LLW
[ ] non-radioactive

8. Actual years disposed of at SDA:
Starting year 1982 Ending year 1982

9. Waste stream volume:
Amount 0.7929 Units Cubic meters.
Check box: [ ] annual or [X] total over all years
Check box: [X] container volume or [ ] waste volume

10. Comments (specify number of pertinent question):

1. General physical form (see attached list)
Combustibles (paper, cloth, wood, etc.).
[X] other (specify)
Compactible.

2. Details on physical form(particularly confinement related)
Waste generated from cleanup of the facility.

3. Chemical form:
Solid.

4. Inner packaging: [ ] plastic bag [ ] plastic liner
[ ] metal liner [ ] none [X] other (specify)
Unknown.

5. Waste container type (see attached list)
Bale.

6. Other characteristics of interest:

7. Comments (specify number of pertinent question):
5. Twenty each 1.4 cu ft. BLXs.

For each contaminant, complete at least one line on the following table. If any entries for that contaminant vary by year, fill out additional lines as needed to cover the varying entries for different years. For example, if the annual quantity disposed was x kg for 1952-56 and y kg for 1956-84, use two lines to handle this situation.

Contaminant & CAS Registry Number	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
None.										

* If sample data are available, mark Y in the column titled "Samples?" and provide number of samples in the next column and standard deviation in the next column.
If not, mark N and give the minimum value and maximum value.
Additional information or explanations (indicate pertinent contaminant)

For each contaminant, complete at least one line on the following table. If any entries for that contaminant vary by year, fill out additional lines as needed to cover the varying entries for different years. For example, if the annual quantity disposed was x kg for 1952-56 and y kg for 1956-84, use two lines to handle this situation.

Radionuclide	Physical Form	Chemical Form	(A)nnual/(T)otal Quantity	Unit	Begin Year	End Year	Samples?	Minimum Value/#Samp	Maximum Value/STD	Basis for Uncertainty
Co-58	Solid.	N/A.	A .00319000000000	CI	1982	1982	N			
Co-60	Solid.	N/A.	A .00319000000000	CI	1982	1982	N			

* If sample data are available, mark Y in the column titled "Samples?" and provide number of samples in the next column and standard deviation in the next column.
If not, mark N and give the minimum value and maximum value.
Additional information or explanations (indicate pertinent contaminant)
MAP equals 1/2 Co-58 and 1/2 Co-60, based on best guess estimate.

PART E - SOURCES OF INFORMATION AND UNCERTAINTIES - LOF-650-1H

1. Type of source of information:
(check box)

[X] RWMIS [ ] other database
[ ] sample analysis data
[ ] operating records [ ] interview
[ ] expert judgment [ ] reports
[ ] other

2. Details concerning source (names, report no., dates, etc.)
None.

3. Do the estimates of contaminant quantities in Part C and D represent:
[X] best estimate
[ ] worst case
[ ] other

4. If other than best estimate, explain why:

5. Do the data conflict with RWMIS?
(Historical or Present Data Only)
[X] no
[ ] yes

6. If yes, explain why:

7. Major unknowns in inventories of contaminants:
Physical/chemical form of waste stream and other details of waste stream.

8. Key assumptions used to deal with the unknowns:
Assumed physical form to be solid and probably combustible materials with rad. contamination.