

VIA TELETYPE

GANNETT NEWS SERVICE

CONFIRMATION COPY

October 15, 1990

90-367

Mr. Donnie H. Grimsley
Director
Division of FOI/Office of
Administration
Mailstop P370
Nuclear Regulatory Commission
Washington, D. C. 20555

Re: NRC FOIA Request No. 90-367

Dear Mr. Grimsley

On August 13, 1990, Gannett News Service requested certain information relating to the generation and disposal of low-level radioactive waste. On August 30, the Nuclear Regulatory Commission (NRC) responded to this request, stating that the NRC did not possess the information requested. (See attachment).

However, further research reveals that the NRC does have in its possession, or should have in its possession, the requested information.

Specifically, NRC contract NRC-02-90-007 (copy attached), which is apparently an update of previous NRC contracts, provides that, among other things, Utility Data Institute will supply from the records of U.S. Ecology:

A sort . . . that lists the names and identification numbers of the waste generators; [Task 3, Page 10, Section C, RS-NMS-89-011]

A computer routine that lists waste shipments and containers containing chelating agents in concentrations of greater than 0.1 percent. The format for this report shall include generator, generator number, manifest number, date, container volume, activity, waste and stability classes, and waste description; [Task 4, Page 10, Section C, RS-NMS-89-011]

1000 WILSON BLVD ARLINGTON, VA 22229-0001
(703) 275-5800



9102190126 901015
PDR FOIA
COCHRAN90-367 PDR

A computer routine that (could) . . . list all containers (and generator names, shipment ID numbers, dates, volumes, waste descriptions and activities) . . . [Task 6A, Page 11, Section C, RS-NMS-89-011]

In addition, NRC Contract 02-89-006 provides that Chem-Nuclear Systems Inc. will supply information regarding disposal at the Barnwell site. Among the contract requirements, is the following:

The contractor shall prepare files containing copies of records of all radioactive materials disposed at the site during calendar years 1988, 1989 and 1990 . . . The files shall include any other information accompanying the records that may provide further specific information about particular waste shipments (e.g., the date of receipt, the type, quantity and form of radioactive material received, the originator, the originator city, the shipping distance and the type of package in which the radioactive material was shipped . . . [Section C, RS-NMS-89-006]

Furthermore, the contract provides that:

Annual information summaries for 1988, 1989 and 1990 shall at least include the following:

Total waste volume and radionuclide activity organized by disposal customer . . . [Section C, RS-NMS-89-006]

According to the documents obtained by Gannett News Service, the contract with Utility Data Institute was effective December 22, 1989 and the Chem-Nuclear contract was effective May 22, 1989. In other words, the NRC had the information requested by Gannett News Service at the time of the original request. In addition, under terms of the Utility Data contract, the NRC has ongoing access to the information requested through two computer workstations located at the NRC. Delivery of the contracted material is supposed to be made to Gary Roles, NRC, Division of Low-Level Waste Management and Decommissioning.

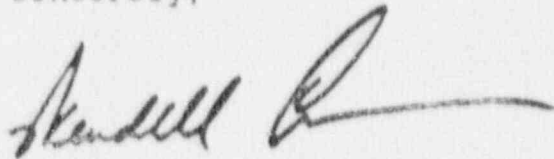
It would be most convenient if these records could be provided to me on 3 1/2" IBM-compatible computer disks, with the information in ASCII format. However, if that is not possible, we will accept the material either in hard-copy or some other computer format.

Because these records will be used in preparing news articles in the public interest, we hereby renew our request that any fees associated with providing this information be waived. However, if you decide not to waive fees, please notify me if you expect them to exceed \$500.

Under provisions of 5 USC §552, you have 10 days to respond to this request. However, considering that the NRC could have complied with the original request, we believe it would be only fair for you to expedite this request.

We look forward to hearing from you.

Sincerely,

A handwritten signature in black ink, appearing to read "Wendell Cochran", with a long horizontal flourish extending to the right.

Wendell Cochran

Attachment

cc: Barbara Wartelle Wall
Bob Ritter



RESPONSE TO FREEDOM OF INFORMATION ACT (FOIA) REQUEST

FOIA → 90-367

RESPONSE TYPE

FINAL PARTIAL

DATE AUG 30 1992

DOCKET NUMBER(S) (if applicable)

REQUESTER COO-RAN, WENDELL

PART I - AGENCY RECORDS RELEASED OR NOT LOCATED (See checked boxes)

- No agency records subject to the request have been located.
- No additional agency records subject to the request have been located.
- Requested records are available through another public distribution program. See Comments Section.
- Agency records subject to the request that are identified on Appendix(es) _____ are already available for public inspection and copying at NRC Public Document Room, 2120 L Street, N.W., Washington, DC, 20555.
- Agency records subject to the request that are identified on Appendix(es) _____ are being made available for public inspection and copying at NRC Public Document Room, 2120 L Street, N.W., Washington, DC, in a folder under this FOIA number and requester name.
- The nonproprietary version of the proposal(s) that you agreed to accept in a telephone conversation with a member of my staff is now being made available for public inspection and copying at the NRC Public Document Room, 2120 L Street, N.W., Washington, DC, in a folder under this FOIA number and requester name.
- Agency records subject to the request that are identified on Appendix(es) _____ may be inspected and copied at the NRC Local Public Document Room identified in the Comments Section.
- Enclosed is information on how you may obtain access to and the charges for copying records placed in the NRC Public Document Room, 2120 L Street, N.W., Washington, DC.
- Agency records subject to the request are enclosed.
- Records subject to the request have been referred to another Federal agency(ies) for review and direct response to you.
- You will be billed by the NRC for fees totaling \$ _____.
- In view of NRC's response to this request, no further action is being taken on appeal letter dated _____ No _____.

PART II - INFORMATION WITHHELD FROM PUBLIC DISCLOSURE

Certain information in the requested records is being withheld from public disclosure pursuant to the exemptions described in and for the reasons stated in Part II sections B, C, and D. Any released portions of the documents for which only part of the record is being withheld are being made available for public inspection and copying at the NRC Public Document Room, 2120 L Street, N.W., Washington, DC, in a folder under this FOIA number and requester name.

COMMENTS

*The staff informed us that NRC has no list of which companies or persons generate and dispose of wastes and at which sites. However, a copy of the listing of all licensees is retained in blue binders at the reference desk in the PDR which may be of interest to you. Also you may wish to contact the operators of the disposal sites directly for a listing pertaining to their particular site.

SIGNATURE, DIRECTOR, DIVISION OF FREEDOM OF INFORMATION AND PUBLICATIONS SERVICES

Donna H. Kinsley

~~9102050190~~

NRC FORM 255 110-761 DIVISION OF CONTRACTS U.S. NUCLEAR REGULATORY COMMISSION WASHINGTON, D.C. 20555 NOTIFICATION OF CONTRACT EXECUTION		CONTRACT NUMBER NRC-02-89-006 MODIFICATION NUMBER <input checked="" type="checkbox"/> NEW <input type="checkbox"/> MODIFICATION OTHER (Specify)	
TO: <u>Jesse L. Funches, Director</u> <small>(Title)</small> <u>Program Management, Policy Development and Analysis Staff, NMSS</u> <small>(Organization)</small>		CONTRACT BASED ON: <u>RFPA</u> AUTHORIZATION NUMBER <u>NMS-89-006</u> DATE <u>12/19/89</u>	
FROM: <u>Sharon Heston</u> <small>(Contract Specialist)</small> <u>7/13/89</u> <small>(Date)</small> <u>Contract Negotiation Branch No. 1</u> <u>DIVISION OF CONTRACTS, ADM</u>		CONTRACT CHANGES PER THIS ACTION	
CONTRACTOR (Name & Location) <u>Chem-Nuclear Systems, Inc.</u> <u>220 Stoneridge Drive, Suite 100</u> <u>Columbia, SC 29210</u>		EXECUTION DATE <u>5/26/89</u> TYPE OF CONTRACT <u>Firm Fixed Price</u>	
PROJECT TITLE <u>Low-Level Waste Management and Decommissioning</u>		PERIOD OF PERFORMANCE <u>5/22/89 - 7/1/91</u> PRINCIPAL INVESTIGATOR <u>George Jobson</u> NRC AUTHORIZED REPRESENTATIVE <u>Gary Roles</u>	
FUNDING	SAR NUMBER <u>35C-19-04-010</u>	FIN NUMBER <u>85 999-9</u>	AMOUNT
	NEW NRC FUNDS		<u>\$ 98,394.00</u>
	TOTAL FY <u>89</u> FUNDING		<u>\$ 98,394.00</u>
	TOTAL NRC OBLIGATIONS		<u>\$ 98,394.00</u>
GOVERNMENT PROPERTY <u>8907270135 390526</u> <u>PDR CONTR</u> <u>NRC-02-89-006 FDC</u>		ATTACHMENT(S): <u>DFC2</u> <u>1</u> CONTRACT DOCUMENT I	

8907270135

U.S. Nuclear Regulatory Commission
 Division of Contracts and Property Management
 Washington, DC 20555

7. NAME AND ADDRESS OF CONTRACTOR (Incl. street, city, county, State and ZIP Code)

Chem-Nuclear Systems, Inc.
 220 Stoneridge Drive, Suite 100
 Columbia, SC 29210

8. DELIVERY
 FOB ORIGIN OTHER
 9. DISCOUNT FOR PROMPT PAYMENT
 N/A

11. SHIP TO MARK FOR FACILITY CODE

U.S. Nuclear Regulatory Commission
 Attn: Gary Roles, MS: OWFN 224
 Washington, DC 20555

10. SUBMIT INVOICES (4 copies unless otherwise specified) TO THE ADDRESS SHOWN IN 12. 12

12. PAYMENT WILL BE MADE BY
 U.S. Nuclear Regulatory Commission
 Division of Acctg. & Finance GOV/COM 5
 Washington, DC 20555

13. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION:
 10 USC 2304(c)(1) 41 USC 253(c)(1) 1

14. ACCOUNTING AND APPROPRIATION DATA
 B&R No.: 950-19-04-010 FIN No.: 8690
 APPN No.: 31X0200.950 OBLIGATED: \$98.3

15A. ITEM NO. 15B. SUPPLIES SERVICES 15C. QUANTITY 15D. UNIT 15E. UNIT PRICE 15F. PRICE

The U.S. Nuclear Regulatory Commission hereby accepts Chem-Nuclear Systems, Inc. proposal dated April 3, 1989 in response to RFP No. RS-NMS-89-006 dated March 1989, all of which are incorporated into this contract by reference, to provide copies of records of all radioactive materials disposed at the Barnwell, South Carolina site during calendar years 1988, 1989, and 1990. See attached pages for administrative changes.

8907270139 890526
 FDR CONTR
 NRC-02-89-006 FDC

15G. TOTAL AMOUNT OF CONTRACT \$ 98.3

16. TABLE OF CONTENTS

VI	SEC	DESCRIPTION	PAGE(S)	VI	SEC	DESCRIPTION
PART I - THE SCHEDULE				PART II - CONTRACT CLAUSES		
X	A	SOLICITATION/CONTRACT FORM	1	I		CONTRACT CLAUSES
X	B	SUPPLIES OR SERVICES AND PRICES/COSTS	2	PART III - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACHMENTS		
	C	DESCRIPTION/SPECS. WORK STATEMENT		J		LIST OF ATTACHMENTS
	D	PACKAGING AND MARKING		PART IV - REPRESENTATIONS AND INSTRUCTIONS		
	E	INSPECTION AND ACCEPTANCE		K		REPRESENTATIONS, CERTIFICATIONS AND OTHER STATEMENTS OF OFFERORS
X	F	DELIVERIES OR PERFORMANCE	2	L		INSTRS. CONDS. AND NOTICES TO OFFERORS
X	G	CONTRACT ADMINISTRATION DATA	2	M		EVALUATION FACTORS FOR AWARD
	H	SPECIAL CONTRACT REQUIREMENTS				

CONTRACTING OFFICER WILL COMPLETE ITEM 17 OR 18 AS APPLICABLE

17. CONTRACTOR'S NEGOTIATED AGREEMENT (Contractor is required to sign this document and return 2 copies to issuing office.) Contractor agrees to furnish and deliver all items or perform all the services set forth or otherwise identified above and on any continuation sheets for the consideration stated herein. The rights and obligations of the parties to this contract shall be subject to and governed by the following documents: (a) this award/contract, (b) the solicitation, if any, and (c) such provisions, representations, certifications, and specifications, as are attached or incorporated by reference herein. (Attachments are listed herein.)

18. AWARD (Contractor is not required to sign this document) offer on Solicitation Number _____ including the additions or changes made by you which additions are set forth in full above, is hereby accepted as to the items listed on any continuation sheets. This award consummates the contract. Lists of the following documents: (a) the Government's solicitation offer, and (b) this award/contract, may further contractual documentary.

19A. NAME AND TITLE OF SIGNER (Type or print)

GEORGE C. JOBSON - MANAGER, BUSINESS DEVELOP.

20A. NAME OF CONTRACTING OFFICER

Mark J. Flynn

19B. NAME OF CONTRACTOR
 BY George C. Jobson
 (Signature of person authorized to sign)

19C. DATE SIGNED
 5/26/89

20B. UNITED STATES OF AMERICA
 BY Mark J. Flynn
 (Signature of Contracting Officer)

20C. DATE
 5/22

~~8907270139~~

SECTION C - DESCRIPTION/SPECIFICATION
/WORK STATEMENT

C.1 STATEMENT OF WORK (MAR 1987)

C.1.1 BACKGROUND

The U.S. Nuclear Regulatory Commission (NRC) is developing licensing procedures, performance objectives and technical criteria for the disposal of low-level radioactive waste (LLW). Information about the sources and quantities of waste generated is needed to aid in the development of these criteria. The Chem-Nuclear site at Barnwell, South Carolina is one of the three sites which received LLW for disposal during the calendar year 1988. LLW will also be received during calendar years 1989 and 1990. NRC is requesting that the above disposal facility operator provide copies of records of LLW disposed at the site.

C.1.2 WORK REQUIRED

The contractor shall furnish all the necessary qualified personnel, facilities, material, and services, and perform the tasks delineated below.

The contractor shall prepare files containing copies of records of all radioactive materials disposed at the site during calendar years 1988, 1989, and 1990. The disposal records shall be delivered as microfiche copies and shall be organized into sections by month and A.S. number. The waste volume and curies of activity shall be tabulated for each section. Records of radioactive waste disposed at the site and generated from onsite activities shall also be included.

The files shall include any other information accompanying the records that may provide further specific information about particular waste shipments (e.g., the date of receipt, the type, quantity, and form of radioactive material received, the originator, the originator city, the shipping distance, and the type of package in which the radioactive material was shipped).

Some of the records -- particularly high activity shipments such as those delivered by Union Carbide in Tuxedo, NY -- contain summaries of total activity and reference a list of the activities of specific isotopes. Care shall be taken to include the referenced isotopic activity lists with the information provided. Copies of waste shipment and transport vehicle inspection records need not be provided.

NRC FORM 255
(10-76)

CONTRACT NUMBER

NRC-12-90-007

1119

DIVISION OF CONTRACTS
U.S. NUCLEAR REGULATORY COMMISSION
WASHINGTON D.C. 20555

90 FEB 23

MODIFICATION NUMBER

128

NEW MODIFICATION

OTHER (Specify)

NOTIFICATION OF CONTRACT EXECUTION

TO: Jesse L. Finches, Director

Program Management, Policy Development and
Analysis Staff, NRC

CONTRACT BASED ON

AUTHORIZATION NUMBER

NMS-89-011

DATE

FEB 10 89

FROM:

Charles R. Butler
Contract Specialist

(Date)

CONTRACT CHANGES PER THIS ACTION

Contract Administration Branch No. 1

DIVISION OF CONTRACTS AND PROPERTY MANAGEMENT

EXECUTION DATE

CONTRACTOR NAME & LOCATION

Utility Data Institute, Inc.
1700 K Street, N.W.
Suite 412
Washington D.C. 20006

TYPE OF CONTRACT

FFR Requirements

PROJECT TITLE

Customer Data Collection - Utility Data Institute

PERIOD OF PERFORMANCE

12 22 88 - 12 31 89

PRINCIPAL INVESTIGATOR

NRC AUTHORIZED REPRESENTATIVE

Gary, Poleski

APPN
31X0200.050

3&R NUMBER

150-19-32-01-1

FIN NUMBER

11255

AMOUNT

NEW NRC FUNDS

\$ 41,881.00

FUNDING

TOTAL FY 89 FUNDING

\$ 44,881.00

TOTAL NRC OBLIGATIONS

\$ 44,881.00

GOVERNMENT PROPERTY

501020128 400101
REC 10/2/88
100-19-32-01-1

ATTACHMENT(S)

CONTRACT DOCUMENT(S)

NRC FORM 255

~~9001260275~~

AWARD CONTRACT

THE CONTRACT NUMBER IS NDCR DPAS 219 3001

CONTRACT LINE IDENTIFICATION

EFFECTIVE DATE

FORM NO. 107-107 Rev. 1

NRC-02-90-007

12 22 89

25-146-27-107 Rev. 1

ISSUED BY

CODE

ADMINISTERED BY

CODE

U.S. Nuclear Regulatory Commission
Contract Negotiation Branch No. 1, P-1020
Div. of Contracts & Property Management
Washington, D.C. 20555

U.S. Nuclear Regulatory Commission
Contract Administration Branch, P-902
Div. of Contracts & Property Management
Washington, D.C. 20555

NAME AND ADDRESS OF CONTRACTOR

DELIVERY

Utility Data Institute, Inc.
1700 K Street, N.W.
Suite 400
Washington, D.C. 20006

FOR ORIGIN OTHER

DISCOUNT FOR PROMPT PAYMENT

Net

TO SLEW INVOICES

TO SLEW INVOICES

TO SLEW INVOICES

TO SLEW INVOICES

CODE

FACILITY CODE

TO MARK FOR

CODE

PAYMENT WILL BE MADE BY

CODE

See Section F.5

U.S. Nuclear Regulatory Commission
Div. of Accounting & Finance, 307-104 S
Washington, D.C. 20555

AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION

ACCOUNTING AND APPROPRIATION DATA

B&R: 050-19-33-010 APPV: 31X0200.

FIN: 110870 OBLIGATED AMOUNT: 544

DISC CODE

DISC CODE

ITEM NO

DISC CODE

QUANTITY UNIT PRICE

The U.S. Nuclear Regulatory Commission hereby accepts Utility Data Institute, Inc.'s proposal dated September 27, 1989 as amended by letter dated November 8, 1989 (hereby incorporated by reference) to perform the work herein. This firm fixed price requirements type contract is completed as follows:

FICR CONTR NRC-02-90-007 FICR

Continued on next page

TOTAL AMOUNT OF CONTRACT \$ 544.28

TABLE OF CONTENTS

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Y	C DESCRIPTION SPECS WORK STATEMENT		X	LIST OF ATTACHMENTS
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Y	F DELIVERIES OR PERFORMANCE			L INSTRS CONDOS AND NOTICES TO OFFICERS
Y	G CONTRACT ADMINISTRATION DATA			M EVALUATION FACTORS FOR AWARD
Y	H SPECIAL CONTRACT REQUIREMENTS			

CONTRACTING OFFICER WILL COMPLETE ITEM 17 OR 18 AS APPLICABLE

17. CONTRACTOR'S NEGOTIATED AGREEMENT Contractor is required to sign this document and return 2 copies to issuing office. Contractor agrees to furnish and deliver to the Government the services specified by otherwise identified goods and in the continuation sheets for the contract. The rights and obligations of the parties to this award contract shall be subject to and governed by the following documents: (1) this award contract, (2) the solicitation, if any and its such provisions, representations, certifications, and identical ones in or attached or incorporated by reference herein, (3) attachments and related material.

18. AWARD (Contractor is not required to sign this document) Offer on Solicitation Number: _____ including the additions or changes made by you which additions are set forth in full above, is hereby accepted as in the terms and conditions in any continuation sheets. This award constitutes the contract. List of the following documents: (1) the Government's 10-101-0-1181-0-1181, and (2) this award contract. No further contract documents are required.

19A NAME AND TITLE OF SIGNER

19A NAME OF CONTRACTING OFFICER

Shirley A. ...

Mark J. Flynn

19B NAME OF CONTRACTOR

19C DATE SIGNED

20B UNITED STATES OF AMERICA

20C DATE

9001290025

SECTION C - DESCRIPTION SPECIFICATION /WORK STATEMENT

C.1 STATEMENT OF WORK (MAR 1987)

1.0 Background

The U.S. Nuclear Regulatory Commission (NRC) is developing licensing procedures, performance objectives, technical criteria, and performance assessment capabilities for the disposal of low-level radioactive waste (LLW). Information about the sources and quantities of waste generated is needed to aid in development of these criteria. U.S. Ecology (USE) disposal sites at Richland, WA and Beatty, NY are two of three sites which currently receive LLW for disposal. NRC is requesting the continued access to USE's disposal records and customized programs to search the data base.

2.0 Work Required

2.1 Continuation of Access

The contractor shall furnish: (1) continued access to USE's data base of waste disposal information for disposal sites at Richland, WA and Beatty, NY through application of operating software. (2) One day of training at NRC facilities in the use of on-line services covering accessing the data base, browsing records, creating standard reports, printing these reports, and logging off the system. (3) Data base user guides, signon instructions, and sample pages of standard reports at each of the two user workstations.

2.2 Customized Programming

The contractor shall develop and document new search capabilities in the USE waste disposal data base, customized for use by NRC staff (the user). The hierarchy of programming tasks follows:

Task 1: For a specified disposal site and time interval, list the disposed volume and total activity for all waste descriptions and solidification/absorption media as a function of waste and stability class. If the user doesn't specify the solidification and absorption media, the sort is over all solidification and absorption media, reported during the time interval. It is important to distinguish stable Class A waste from unstable Class A waste. The user shall have the option to restrict the sort to specific waste generators or specific waste generator categories.

Task 2: For a specified disposal site and time interval, list the isotopic inventory in a specified waste description and

The contractor shall use the NRC microfiche specifications listed in Attachment 4 as general guidance. The individual microfiche titles shall list the range of A.S. numbers for the manifests contained in the microfiche.

In addition, computer listings containing cross-referenced summaries of the information contained in the radioactive waste shipment records shall be provided on both a monthly and an annual basis. Monthly information summaries shall at least include the trench activity report, the trench recap report, the volume received by state, the volume received by class, the burial activity report, the breakdown of isotopes received, the summary breakdown of isotopes received, the breakdown of SNM packages received, the cubic footage received vs. limitation report, the cubic footage breakdown report, and the SNM package limitation report. The format for the monthly computer listings provided for the 1985 records is acceptable.

Annual information summaries for 1988, 1989, and 1990 shall at least include the following:

- ~~Total waste volume and radionuclide activity organized by disposal facility customer~~ (the format of the trench activity report is acceptable);
- Total inventories for individual radionuclides;
- Total waste volumes and activities organized by generating state;
- Total waste volumes and activities organized by individual waste type (e.g., as in the "waste code" designation in the trench activity report); and
- Total waste volumes and individual radionuclide activities organized by waste class.

C.1.3 MEETINGS AND TRAVEL

No meetings or travel will be required.

C.1.4 QUALITY ASSURANCE

All reports, including those which do not contain numerical analyses, must be reviewed by the contractor's management and approved with two signatures, one of which is for the contractor management at a level above the program manager.

For all reports delivered under this contract, the contractor shall ensure that an independent review and verification of all numerical computations and mathematical equations, derivations, and models are performed by qualified contractor personnel other than the original author(s) of the reports. If the contractor proposes to verify/check less than 100 percent of all computations and

solidification and absorption media as a function of waste class. If the user doesn't specify the solidification and absorption media, the sort is over all solidification and absorption media reported during the time interval selected. The user shall also have the option of restricting the sort to specific waste generators or waste generator categories (i.e., electrical services, health services, etc.)

Task 3: USE's current report selection EPC510 shall be expanded. First, a sort shall be provided that lists the names and identification numbers of the waste generators sorted by generator class. That is, list all generators that have been assigned to the "electric service" category, and generators that have been assigned to the "health service" category, and so forth. Second, a sort shall be provided that lists volumes and radionuclide inventories as a function of waste class and generator class.

Task 4: Provide a computer routine that lists waste shipments and containers containing chelating agents in concentrations exceeding 0.1%. The format for this report shall include generator, generator number, manifest number, date, container volume, activity, waste and stability classes, and waste description.

Task 5: Provide a computer routine to calculate distributions in waste containers. One distribution will be a concentration distribution; another would be a radiation distribution. The user would first specify details such as the disposal site and the time interval. The user would then specify whether the sort is to be restricted to a specific generator or a generator category. The user would then specify the waste description, the solidification media, and the class. The user shall have the ability to consider a packaging factor (see task 7). The following programming details are required:

- a) If a waste description is not specified, the sort is over all waste during the time interval.
- b) If a waste description is specified and solidification media is not, the sort is over all solidification media reported for that waste description. If a solidification media is specified, the sort is over the specified waste description and solidification media.
- c) If a waste class (AU, AS, A, B, C) is specified, the sort is over the specified class. If no waste class is specified, the sort is over all waste classes.

Typical reports will display concentration ranges, e.g., from 0.0001 to 1000 Ci/ft³ (or Ci/M), or as appropriate, separated by orders of magnitude. For each concentration range, the report shall show the fraction (in percent) of the waste volume that falls within the range, plus the average concentration of all the waste in that range. Average

concentration over all ranges shall be indicated. Finally, the total waste volume and the number of containers shall be indicated. The last two items help the user to judge the adequacy of the data base used to calculate the distribution.

As noted above, a similar sort will involve radiation levels at container surfaces.

Task 6: Provide a computer routine that sorts over specified waste characteristics for a given disposal site and time period. The waste characteristics would be given relatively arbitrarily. The following are examples of possible sorts. There could be many others.

- a) List all containers (and generator names, shipment ID numbers, dates, volumes, waste descriptions, and activities) containing a total activity (or concentration) exceeding X curies (or $\times \text{Ci/m}^3$).
- b) List all containers (and generator names, shipment ID numbers, dates, volumes, waste description, and activities) containing a specific isotope in an activity (or concentration) exceeding X curies (or $\times \text{Ci/m}^3$).
- c) List all containers (plus generator names, shipment ID numbers, dates, volumes, waste descriptions, and activities) that contain waste class A, or B, or C.
- d) List all containers (plus supplementary information) that contain a specified waste description and/or solidification or absorption media.
- e) List all containers (plus supplementary information) that have package surface radiation readings exceeding 2 MR/hr.
- f) List all containers (plus supplementary information) that exceed a specified weight.
- g) List all containers (plus supplementary information) of a particular size (or in particular size range).
- h) List all containers (plus supplementary information) containing source material or special nuclear material in quantities exceeding Z.

Basically, this routine will allow the user to perform custom sorts. It shall include the ability to consider multiple waste characteristics. For example, list all containers exceeding 0.1%, and corresponding to a specified waste characteristic and/or solidification agent.

Task 7: Provide a computer routine that classifies individual waste containers as a function of an arbitrary radionuclide-specific concentration. For a given year and disposal site, the routine would sort through, for each waste