

# memorandum

DATE: JUL 31 1987

REPLY TO  
ATTN OF: RW-42

SUBJECT: Legislation Affecting Program

TO: ISCG Participants

As promised at the ISCG Meeting in Seattle, July 21 - 23, 1987, Vic Trebules agreed to provide his notes on the summary policy update and status and content of legislation pertaining to the waste disposal program. These are included as Attachment I and II. Attachment III is Ben Rusche's statement before the Senate Committee on Energy and Natural Resources providing DOE's comments on four legislative proposals.

  
Barry G. Gale, Chief  
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Waste Management

### Attachments

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ATTACHMENT I

POLICY-UPDATE

- o Over 30 bills have been introduced in the House and the Senate this session to modify the NWPA.
- o DOE policy
  - NWPA provides adequate and sufficient direction and authority to solve the problem of disposal of HLW and SNF.
  - Geologic disposal with integral MRS facility in the waste management system is the best way to proceed.
  - Need is great as SNF, now about 15,000 MTU, and HLW continue to grow.
  - The program has made progress.
  - Improvements to NWPA are a possibility. We hope they can be made without abandoning the progress made.
  - DOE recommended changes in Mission Plan Amendment:
    1. Presented preferred course and schedule for the program;
    2. Revised schedule for first repository, 5-year delay;
    3. Intent to postpone site-specific work for 2nd repository;
    4. DOE submittal to Congress of proposal to construct MRS.
  - The DOE does not believe it would be in national interest to suspend all work on the development of a permanent repository.

ATTACHMENT II

HOUSE BILLS

- HR. 266 January 6. Mrs. Vucanovich (NV). 0 Cosponsors  
A bill to suspend the site selection process under the NWPA until Congress has issued new guidelines for site selection. Congress will hold hearings and issue new guidelines considering public health and safety, all relevant scientific considerations and all possible geologic media.
- H.R. 509 January 7. Mr. Neal (NC). 16 Cosponsors  
Bill to amend the NWPA to remove requirement of a second repository. Removes the deadlines and requirements relating to second and subsequent repositories. Removes the volume limitation on the repository. Revise Mission Plan to comply with Bill.
- H.R.1185 February 19. Ms. Snowe (ME). 25 Cosponsors  
Bill to amend NWPA to provide for disposal in a single repository. If the Secretary has not begun disposal by 1998, a Nuclear Waste Repository Review Commission shall be set up to review geologic disposal. Secretary shall revise Mission Plan to conform with Bill.
- H.R.1252 February 25. Mr. Gregg (NH). 8 Cosponsors  
Bill to amend NWPA to remove requirement for second repository.
- H.R.1324 March 2. Mr. Daniel (VA). 8 Cosponsors  
Bill to amend the NWPA to remove requirement for second repository.
- H.R.1410 March 4. Mr. Price (NC). 2 Cosponsors  
Bill to amend the NWPA to remove requirement for a second repository and to make crystalline rock sites ineligible for such a repository.
- H.R.1649 March 17. Mr. Gunderson.  
To establish a requirement that no person may offer any HLW for transportation in interstate commerce unless licensed by the NRC. License application to include description of waste, purpose, destination, mode, alternative routes, etc. NRC to notify States and Tribes and solicit comments.

- H.R.2082 April 9. Mr. Swift (WA). Co: Morrison  
Bill to amend PA to establish liability and indemnification for nuclear accidents arising out of storage, disposal and transportation of radioactive waste to which U.S. holds title. Would ensure that the Federal government assumes the responsibility to provide, through the use of the Nuclear Waste Fund, total indemnification for public liability claims. Addresses precautionary evacuation.
- H.R.2189 April 28. Mr. Swift (WA). 20 Cosponsors  
Bill to amend NWPA to suspend site characterization process or land acquisition. Would establish a Federal Radioactive Waste Agency to issue revised siting guidelines and process, provide financial assistance. Study need for second repository. Director to revise Mission Plan.
- H.R.2319 May 7. Mrs. Lloyd (TN). 7 Cosponsors  
To establish a contingency plan to enable government to fulfill its contractual commitments to accept title to SNF. Finds that a safe and cost effective plan is to accept title at power plant sites.
- H.R.2475 May 20. Mr. AuCoin (OR). 4 Cosponsors  
Bill to enable states on river or aquifer affected by siting of a repository for HLW or SF to participate in site selection, review and approval process for repository, i.e., have same rights as host State.
- H.R.2625 June 8. Morrison (WA). 4 Cosponsors  
Bill provides 1/2% of appropriated funds of DOD budget, military construction budget and DOE's defense programs budget to DOE for cleanup of hazardous or radioactive waste from atomic energy defense activities, and development of a comprehensive plan.
- H.R.2885 July 1. Mr. Stangeland (MN). 1 Cosponsor  
Requires Secretary to carry out program as described in the Mission Plan Amendment.
- H.R.2888 July 1. Mr. Udall (AZ). 52 Cosponsors  
Bill to suspend certain activities of DOE and to establish a Nuclear Waste Policy Commission. Would establish an independent commission to review the policies underlying the waste program, and DOE's implementation; temporarily suspend site-specific activities; provide Congress an opportunity to review the commission's report and determine future actions. Provides that resumption of site-specific activity

cannot be restarted until and unless Congress authorizes resumption by law. Site-specific activities include land acquisition, site characterization, EAs, SCPs, nomination and recommendation of sites, recommendations of sites for MRS. Commission would report to Congress in 18 months and include: changes in implementation of NWPA; changes in policy of Act; and future role of DOE.

H.R.2967 July 15. Mr. Udall (AZ)  
Bill to establish a Nuclear Waste Policy Review Commission and an Office of the Nuclear Waste Negotiator. Title I is same as H.R.2888. It would establish an independent commission to review the waste program and make recommendations. But, would require that repository siting work under the NWPA would restart automatically if Congress does not act within six months after the Commission's report. Under H.R.2888, Congress would have to act to restart activities.

The Waste Negotiator would make a preliminary determination of qualification of any site. If site is suitable, negotiator would be empowered to negotiate repository siting agreement with State or Tribe based on reasonable terms as parties agree to such as economic incentives and involvement in operations.

#### SENATE

S.621 March 3. Sen. Mitchell (Maine). 6 Cosponsors  
To amend the NWPA to provide for the disposal of HLW and SNF in single repository. If Secretary has not begun disposal by 1998 a Nuclear Waste Repository Review Commission shall be set up to review geologic disposal. Companion Bill to H.R.1185.

S.642 March 3, 1987. Tribble (VA). 4 Cosponsors  
Remove requirement for second repository. Revise Mission Plan to comply with Bill. Companion to H.R.1252.

Admendment to S.748 (Price Anderson renewal) July 1, Adams, Gore  
Would establish an independent review commission to examine high-level waste program. Suspend all site-specific activities for both one and two repository sites, and MRS site. Companion to 2888.

S.833 March 25. Hecht (NV). 32 Cosponsors  
Nuclear Waste Transportation Prohibitions Through  
Urbanized Areas Act of 1987. Prohibited if affected  
local government can identify a safer route.

S.839 March 25. Johnston (LA). 3 Cosponsors.  
To authorize the Secretary of Energy to enter into  
incentive agreements with States and Tribes for storage  
and disposal of HLW and SNF

Benefits Schedule	MRS	Repo
Execution of Agreement	\$50 m	100
Annual payment prior to fuel	20	50
First fuel receipt	50	100
Annual payment until closure	50	100

Establishes a review panel to advise Secretary on  
operation of repository, assist in presentation to  
States and Tribes, etc.

Works at other repository sites to be suspended. MRS  
is authorized to be constructed and operated.

S.935 April 7. Warner (VA). 1 Cosponsor  
Carry out activities according to Mission Plan and  
Mission Plan Amendment. Companion to H.R.2885.

S.1007 April 9. Hatfield (OR). 3 Cosponsors  
Enables States on river or aquifer affected by  
siting of repository to participate as the State  
in which repository is proposed to be located.  
Companion to H.R.2475.

S.1008 April 10. Proxmire.  
To provide for State regulation of transportation of  
high-level waste. Any person, group before shipping  
must obtain license from NRC. States would be  
empowered to require accident reporting, inspection,  
advance notice, user fees, and other health and safety  
requirements.

S.1085 April 23. Glenn (OH). 7 Cosponsors  
To create an independent oversight board to ensure the  
safety of U.S. Government nuclear facilities, to apply  
provisions of OSHA to certain DOE facilities, to clarify  
the jurisdiction and powers of government agencies  
dealing with nuclear wastes and to ensure independent  
research on the effects of radiation.

- S.1141 May 6. Hecht (NV) 1 Cosponsor  
Prohibits transport of SNF to repository until fuel has been stored for 50 years in anticipation of eventual reprocessing.
- S.1211 May 15. Hecht (NV).  
Bill to initiate an analysis of the feasibility of reprocessing before the Federal Government invests substantial amounts of funds on geologic disposal. DOE to contract with NAS who will issue a report by 1989. Site-specific work would be suspended.
- S.1266 May 21. Evans (WA). 2 Cosponsors  
Provides for regional MRS facilities. Suspends all repository activities until 1998. DOE to conduct national survey of potential repository sites. DOE to study need for second repository. Secretary to select MRS sites in Northeast or mid-Atlantic, Southeast, Mid-West, West Rocky Mt.
- S.1269 May 21. Wirth (CO) 7 Cosponsors  
Bill to improve hazardous materials transportation.
- S.1395 June 19. Hecht (NV). 10 Cosponsors  
Nuclear Waste Transportation Act of 1987. Packages to be certified by NRC only after they have been proven in actual tests on full-scale packages.
- S.1423 June 25. Johnston (LA).  
Authorizes construction and operation of MRS on the Clinch River in Tennessee.
- S.1428 June 25. Hecht (NV).  
To encourage research on subseabed disposal of nuclear waste. Establishes an Office of Subseabed Disposal Research. Requires an R&D plan.
- S.1432 June 25. Evans (WA). 1 Cosponsor  
To provide that a certain amount of funds shall be available to the Secretary of Energy for the clean up of hazardous or radioactive waste from defense activities, and to require the Secretary to develop a plan. Companion to H.R.2625.
- S.1481 July 10 Johnston. (LA) 1 Cosponsor  
The major provisions of S.1481 relating to the program elements are as follows:

### First Repository

- o Directs the Secretary of Energy to select by January 1, 1989, one of the three candidate repository sites for detailed site characterization.
- o If the selected site is found suitable after testing program, a repository would be licensed by the Nuclear Regulatory Commission and constructed at that site. If not, the Secretary would be directed to select one of the remaining two candidate site for detailed testing.
- o Selection of the preferred candidate repository site will be made based on consideration of the prospects for successful licensing by NRC, the number and seriousness of potential disqualifying factors at the site, and the quality and completeness of data available.
- o Activity at the three candidate sites between enactment of this legislation and January 1, 1989, shall be carried out in a way to provide the maximum useful information for selection of a preferred site.

### Second Repository

- o Suspends further site-specific work on a second repository and removes requirement to select candidate sites.
- o Requires the Secretary to submit a report to the President and Congress between January 1, 2007, and January 1, 2010, on the need for a second repository.
- o Retains 70,000 metric ton limit on volume of spent fuel or high-level waste to be disposed of in a first repository.

### Monitored Retrievable Storage

- o Authorizes an MRS at Oak Ridge, Tenn., but allows any other State to come forward between now and January 1, 1989, to request the facility.
- o Incorporates assurances given in the Secretary of Energy's March 1987 MRS proposal limiting the size of the MRS and time of receipt of spent fuel.
- o Does not authorize any construction activity for an MRS until January 1, 1989.

STATEMENT OF  
BEN C. RUSCHE  
DIRECTOR  
OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT  
U.S. DEPARTMENT OF ENERGY

BEFORE THE  
COMMITTEE ON ENERGY AND NATURAL RESOURCES  
UNITED STATES SENATE

JULY 16, 1987

Mr. Chairman and Members of the Committee:

I appreciate the opportunity to appear before you today to discuss the Department of Energy's comments on four legislative proposals relating to nuclear waste that are under consideration by your Committee.

By way of perspective, I understand that more than 30 bills have been introduced in the 100th Congress that would affect nuclear waste storage, transportation or disposal. Each of these bills would, to one extent or another, alter the course of the U.S. nuclear disposal program presently underway. This being the case, it may be worthwhile to begin with a few introductory observations:

First, our confidence in the basic principles and blueprint formulated by Congress via the Nuclear Waste Policy Act of 1982 (NWPA) continues unabated. We believe that permanent geologic isolation, deep underground, in solid rock formations coupled with integral Monitored Retrievable Storage is an excellent choice.

Second, spent fuel and high-level waste continues to accumulate and the need for disposal grows. It seems to me that the objectives of the NWPA remain valid and urgent.

Third, thus far technical progress has been encouraging in spite of the difficulties in working with the affected parties. The key milestone was the President's approval last year of three sites for detailed study, testing and characterization.

As you evaluate new ideas or revisions to the NWPA, I am confident that improvements can be made. When or if improvements are desirable, we can hopefully find ways to adopt new approaches which do not abandon good work previously accomplished. The positive steps already taken are too important to derail, disrupt, or destroy. Previous research has been validated and verified by peer reviews. There is no objective reason to discard previous findings only to retrace the same steps anew. For the past 25 years, the national laboratories and scientific community have been researching nuclear waste disposal. It is doubtful that another decade or another billion dollars spent on research and generic studies on nuclear waste will answer the questions that must be answered. Only a comprehensive regimen of field investigations and testing can do this. And, we have finally begun.

We have known all along that locating a repository anywhere will involve tough societal and technical choices not casually resolved. We demand a strong national defense and plentiful electricity to power our factories and light our homes while insisting that the resultant waste is someone else's responsibility. Mr. Chairman, your recent proposal S. 839, co-sponsored by Senator McClure, is certainly a worthwhile attempt to make the siting of waste facilities more attractive in terms of economic benefits. In the ebb and flow, the give and take, my primary concern is that we must be extremely cautious to not give up important and rigorous program elements mandated by the NWPA unless we are sure we have something better.

The reason why the mission must be accomplished expeditiously and without further vacillation is obvious to the naked eye--inventories of commercial spent nuclear fuel and of high-level wastes created as national defense by-products, continue to accumulate. We can't wish them away; they are here with us today as they have been for decades. But with more than 100 large central station nuclear power reactors now in service, spent fuel storage pools are filling rapidly. Our solution to date has been to buy time: Reactor storage basins and temporary holding tanks in a hundred separate locations in 33 States. It was never intended that private companies in the U.S. would dispose of nuclear waste. The U.S. Government has always assumed that responsibility -- and yet, despite \$2.8 billion already paid by utilities for this disposal service, many would have us renege on prior commitments and begin anew working toward yet another "solution" the future of which no one can predict. Mr. Chairman, and distinguished members of this Committee, given the progress we have made, that would just not be a fair or prudent way to do business. We would not tolerate such an approach in our own private business ventures and we should not impose it here.

I would not want to leave the impression that there is immediate danger with the status quo. The Nuclear Regulatory Commission has affirmed that the present at-reactor fuel storage pools are adequate to protect the public while we move toward a permanent solution. But, the real question may be: are we determined to keep moving? I see evidence that many States,

utilities, and private citizens think that we must. Unfortunately, there are also those who do not wish us success-- or who would permit progress only on their terms.

I have appended to my testimony three tables which pointedly demonstrate the national character of this dilemma:

Thirty-three States already have growing inventories of nuclear spent fuel or will have by the year 2000.

(Table 1)

Four States are temporarily storing high-level wastes created by national defense programs and a former commercial reprocessing facility.

(Table 2)

A map showing the geographic distribution of spent fuel and high-level waste.

(Table 3)

The problem is still squarely before us. We have a workable solution--not perfect but workable. When one reviews the 40 year history of waste disposal, he is led to ask if not now, when?

I appreciate the Committee's indulgence in allowing me to digress slightly from the immediate task at hand--to comment on the four bills before you for action. But, I believe that this type of historical review provides helpful background as we begin to delve into specific recommendations for change.

Now, I am pleased to offer the Department's general summary and observations on the pending bills:

S. 1211 NUCLEAR WASTE REPROCESSING STUDY ACT OF 1987

Sponsor: Senator Hecht

Key Provisions:

The stated purpose of this bill is to initiate an analysis by the National Academy of Sciences (NAS) of the feasibility of reprocessing spent fuel "before the Federal Government invests substantial amounts of additional ratepayer funds on the deep geologic disposal of spent nuclear fuel." All site specific work on potential repositories would be suspended while NAS studies the feasibility of reprocessing. The moratorium would freeze any further site investigations until the year 1990.

Commentary:

When Congress considered nuclear waste disposal options, the question of reprocessing was considered. It was determined that resolving the nuclear waste disposal issue would be further complicated by adding to it the many national policy issues raised by reprocessing. It was decided by the Congress to keep the two issues separate in order to move to a much needed solution on nuclear waste. We continue to believe that was the correct choice.

Another consideration is the limited design impact that reprocessing would have on a high-level waste repository. While it is indeed true that certain elements would be removed and that volume reductions would provide some benefit, the main consideration in designing the repository

is heat load which would be only minimally affected. The President's October 8, 1981, statement on nuclear energy stated that reprocessing is a decision that should be made by the private sector based on market forces. At the present level of uranium prices, the reprocessing of spent nuclear fuel is not an attractive option. Meanwhile, the waste program can and will be capable of disposing of both spent fuel and high-level waste from reprocessing.

S. 1007 TO AMEND THE NUCLEAR WASTE POLICY ACT OF 1982

Sponsor: Senator Hatfield

Key Provisions:

Any State lying contiguous to a major river or waterway or above an underground aquifer, adjacent to, or above which a repository is proposed to be located would have all the same rights and opportunities to participate in the site selection, review and approval process established by the NWPA as the State in which the repository is proposed to be located.

COMMENTARY:

At the time NWPA was under consideration, the rights of States to participate in the siting process was given thorough consideration by the Congress. We believe that the balance that was struck is a good one.

DOE provides a variety of opportunities for the public and officials of non-host States and Tribes to participate in implementation of the NWPA. Such opportunities have

included public meetings with State, Tribal and local officials, public hearings on the Environmental Assessments, public briefings, meetings with Governors and key officials, community briefings and tours of DOE facilities. In addition to these direct contacts, the National Conference of State Legislatures (NCSL) and the National Congress of American Indians (NCAI) have signed cooperative agreements with DOE to supplement our communication with all 50 States and 150 Indian Tribal governments.

S. 1141 NUCLEAR ENERGY WASTE POLICY ACT OF 1987

Sponsor: Senator Hecht

Key Provisions:

The bill would amend the NWPA to require that spent fuel discharged from a reactor core must be stored for 50 years before it can be transported to a repository.

Commentary:

This bill is similar to S. 1211 in that it would impose a moratorium on disposal of nuclear waste in a repository in anticipation of eventual reprocessing. We can find no particular technical merit in the proposition. Technical analysis indicates that spent fuel removed from the reactor core declines in heat by 60 percent after five years. After 25 years, the heat decline is about 90 percent. A substantial amount of the spent fuel projected to be emplaced in the first repository will already have been cooled for two to three decades. Therefore, relatively little additional cooling benefit would be gained from

lengthening the temporary storage time to 50 years. Moreover, the bill would permit shipment to an MRS during the 50 year cooling period-- but not to a repository.

S. 1266 HIGH-LEVEL RADIOACTIVE WASTE STORAGE ACT OF 1987

Sponsors: Senators Evans, Murkowski, Hecht

Key Provisions:

The bill would halt until the year 1998 all permanent repository activities (siting, construction, planning and any other activity). In place of a repository, the bill would authorize construction of four regional MRS facilities. The Secretary of Interior would, during the suspension period, conduct a national survey and prepare a list of potential repository sites. DOE would conduct a survey on the need for a second geologic repository. Each of the four States or Tribes agreeing to accept an MRS would receive \$100 million per year in payments from the Nuclear Waste Fund. States would be given authority to regulate transportation.

Commentary:

The Department does not believe it would be in the national interest to suspend all work on the development of a permanent repository. Again, this was one of the key issues debated during the legislative discussions leading to passage of NWPA. Congress determined that the legislation should be carefully crafted to insure that an MRS facility not become the defacto permanent repository. The

Department, still sensing this potential, included in the MRS proposal a provision that Congress tie the opening of the MRS to receipt from the Nuclear Regulatory Commission of a construction permit to begin constructing the permanent facility. While we have obviously not developed complete cost information on this bill, it would appear to increase total system life-cycle costs by \$24 billion to a new level of \$56 billion. The cost increase derives principally from the \$100 million per year payments to each of the four States accepting a MRS. Finally, we do not believe that delegating to 50 States the authority to individually and separately regulate transportation of nuclear materials is consistent with the need for Federal pre-emption. The Federal Government must retain the ability to move these materials for reasons of national security and public safety.

In conclusion, Mr. Chairman, we see no clear-cut value to these four bills and certainly see that some of the features are unnecessary or unwarranted. With the prospects for revisions in over 30 bills, we believe that great care must be taken to assure that net improvement is made to the NWPA if changes are to be made.

**Table 1: Existing and Projected Inventories of Spent Nuclear Fuel, by State; Years 1985 and 2000**  
(In hundreds of units)

State	Spent Nuclear Fuel				State	Spent Nuclear Fuel			
	1985		2000			1985		2000	
	(MTU)	(M <sup>3</sup> )	(MTU)	(M <sup>3</sup> )		(MTU)	(M <sup>3</sup> )	(MTU)	(M <sup>3</sup> )
(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)		
Alabama	9	29	4	11	Nebraska	3	7	1	3
Arizona	0	10	0	4	New Hampshire	0	5	0	2
Arkansas	3	8	1	3	New Jersey	4	18	2	7
California	3	18	1	7	New York	11	29	5	11
Connecticut	7	18	3	7	North Carolina	5	19	2	7
Florida	7	20	3	8	Ohio	1	10	.	4
Georgia	3	15	1	6	Oregon	2	5	1	2
Illinois	19	58	8	23	Pennsylvania	8	39	4	15
Iowa	1	3	.	1	South Carolina	7	25	3	10
Kansas	0	3	0	1	Tennessee	2	16	1	6
Louisiana	0	7	0	3	Texas	0	13	0	5
Maine	3	5	1	2	Vermont	2	4	1	2
Maryland	4	9	2	4	Virginia	6	16	3	6
Massachusetts	3	6	1	2	Washington	.	9	.	4
Michigan	7	23	3	9	Wisconsin	4	10	2	4
Minnesota	5	11	2	4					
Mississippi	0	8	0	3					
Missouri	0	3	0	1	TOTAL	129	479	55	187

MTU metric ton of uranium.  
M<sup>3</sup> cubic meters.  
. less than .5.

Source: Pacific Northwest Laboratory, Reactor Specific Spent Fuel Discharge Projections: 1984 to 2020 (PNL-5396), April 1985. The data differ slightly from the data contained in the DOE/RW 0006 report because of different assumptions about on-line availability of nuclear power plants.

**Table 2: Existing and Projected National Inventory  
of High-Level Radioactive Waste  
by Source, by State: 1985 and 2000  
(In thousands of cubic meters)**

<u>Source/State</u>	<u>High-Level Radioactive Waste</u>	
	<u>1985</u>	<u>2000</u>
Defense		
Idaho	10.1	14.2
South Carolina <sup>[1]</sup>	116.6	67.1
Washington	227.8	248.7
Commercial		
New York <sup>[2]</sup>	<u>2.3</u>	<u>0.2</u>
TOTAL	356.8	330.2

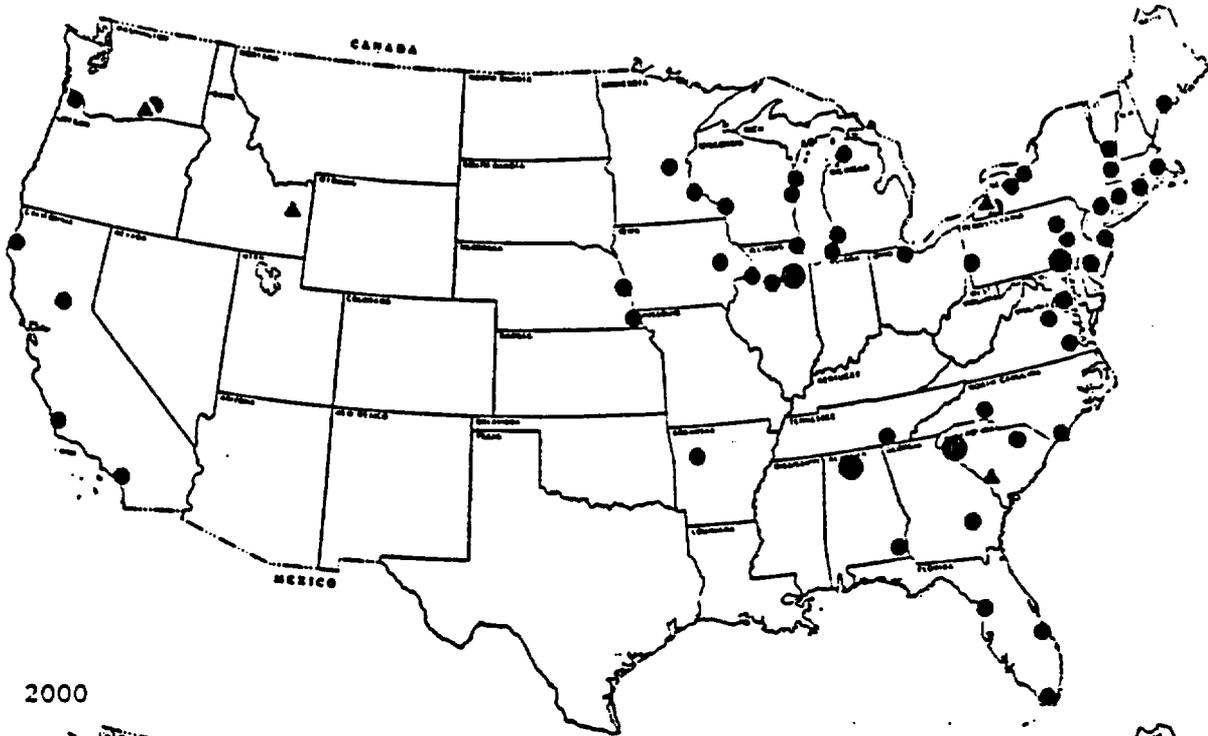
[1] Decline in volume due to DOE's program to immobilize high-level waste for ultimate geologic disposal.

[2] High-level waste will be converted to a form suitable for geologic disposal.

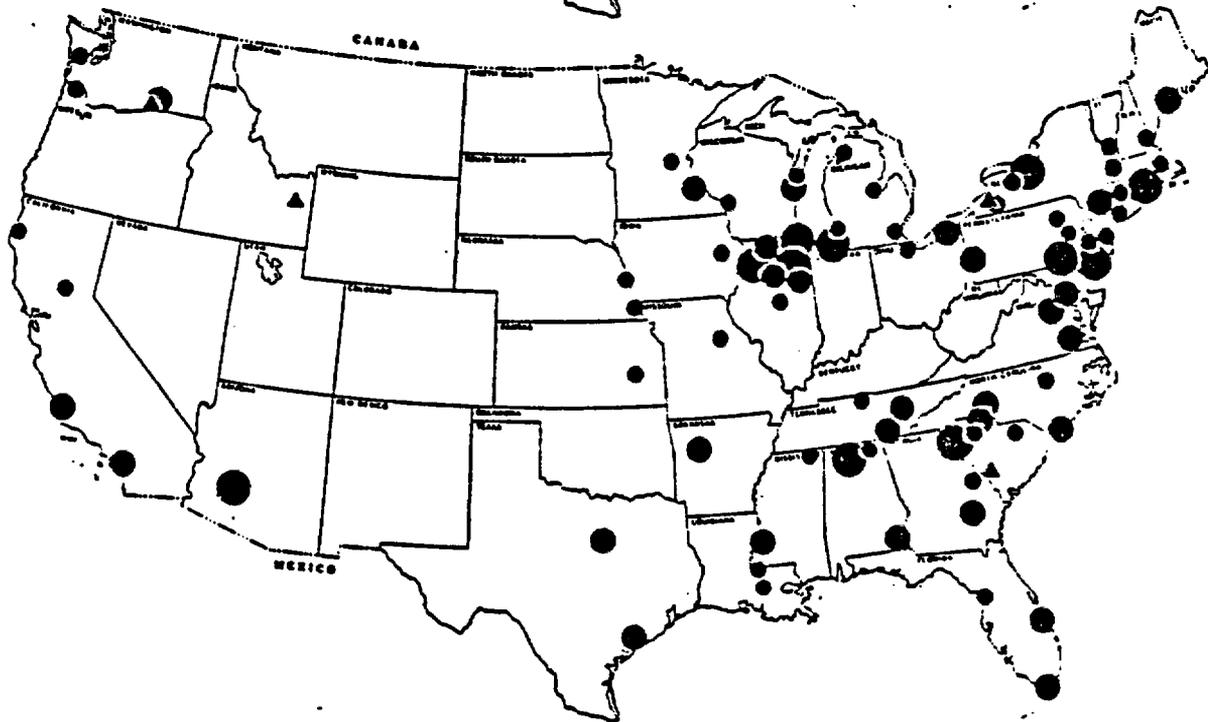
Source: DOE, Spent Fuel and Radioactive Waste Inventories, Projections, and Characteristics (DOE/RW-0006, Rev. 1), December 1985.

Table 3  
 THE GEOGRAPHIC DISTRIBUTION OF SPENT NUCLEAR FUEL  
 AND HIGH-LEVEL RADIOACTIVE WASTE

1985



2000



WASTE STORAGE SITES

Spent Nuclear Fuel

- 1 - 499 MTU
- 500 - 999 MTU
- 1,000+ MTU

▲ High-Level Radioactive Waste