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REMARKS BY

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

BEFORE THE

NEVADA LEGISLATURE'S COMMITTEE
ON HIGH-LEVEL RADIOACTIVE WASTE

LAS VEGAS, NEVADA

AUGUST 20, 1985

I appreciate the opportunity to meet with you today. It is especially a pleasure to participate in the first meeting of the Nevada Legislature's Committee on High-Level Radioactive Waste. This new permanent Committee Chaired by Senator Tom Hickey is a very positive and forward-looking step in facilitating communication and understanding in the interactions between the Department of Energy and the State of Nevada.

Nevada may be the State with the most advanced thinking and comprehensive, as well as constructive, approach to working with the Department of Energy on this sensitive issue.

Being here gives me an opportunity to personally discuss DOE's process for developing a national high-level radioactive waste disposal system which is being carried out under the Nuclear Waste Policy Act of 1982.

BACKGROUND

The passage of that Act was a major milestone in the Nation's management of nuclear waste. The Act, which was passed by the United States Congress in December 1982 and signed into law by the President January 7, 1983, established a national policy for the safe and permanent disposal of spent nuclear fuel and high-level radioactive waste.

The Act established a schedule and a step-by-step process by which the President, the Congress, the States, affected Indian Tribes, DOE and other Federal Agencies can work together in the siting, design, construction and operation of deep, geologic repositories for disposal of spent nuclear fuel generated by civilian nuclear powerplants and high-level waste resulting from atomic energy defense activities. DOE's activities to dispose of high-level waste and spent fuel are regulated by The Nuclear Regulatory Commission, the Environmental Protection Agency and the Department of Transportation. Incidentally, EPA in a major step forward issued last Thursday, 40 CFR 191, its environmental regulations.

I want to commend you on the willingness which many of you have demonstrated toward working together in a coordinated manner in developing a strong and unified position. And while we have not always agreed, I want you to know that I am committed to the purpose and spirit of the Nuclear Waste Policy Act in assuring that the legitimate interests of all affected or interested parties are given full and fair consideration in carrying out the program.

Before I discuss where we are in developing the waste disposal system, I would like to give you some background which resulted in the passage of the Nuclear Waste Policy Act.

We currently have approximately 11,000 metric tons of spent fuel in storage pools at now more than 90 licensed commercial nuclear powerplants in 27 States and the equivalent of almost that much defense high-level waste in 3 or more States.

THE ACT

In passing the Nuclear Waste Policy Act, the Congress realized that this waste creates potential risks and requires safe and environmentally acceptable methods of disposal. A national problem has been created by the accumulation of this waste and Federal efforts during the past 30 years to devise a permanent solution to the problem of waste disposal have not been adequate.

The question is clearly not one of do something or do nothing with the waste. The question is how we can move to permanently isolate these wastes.

Generators and owners of this waste have the primary responsibility to provide for, and the responsibility to pay the costs of storing this waste until it is accepted by DOE for disposal. The Federal Government has the responsibility to provide for the permanent disposal in order to protect health, safety and the environment. And the generators of the waste have the responsibility to pay the cost of disposal. Therefore, the beneficiaries of nuclear energy must pay the cost of disposal.

The crafters of the Act clearly recognized this. And further, the crafters recognized, and I quote from the Act, "...that...State, Indian Tribe and public participation in the planning and development of repositories is essential in order to promote public confidence in the safety of disposal of such waste and spent fuel.... High-level radioactive waste and spent nuclear fuel have become major subjects of public concern, and appropriate precautions must be taken to ensure that such waste and spent fuel do not adversely affect the public health and safety and the environment for this or future generations."

The Act, therefore:

- Establishes a schedule for siting, construction and operation of repositories to provide reasonable assurance that the public and the environment will be adequately protected.
- Establishes the Federal responsibility and a definite National policy, for the disposal of such waste.
- Establishes the Nuclear Waste Fund, composed of payments made by the generators to ensure that the costs of carrying out activities relating to the disposal of such waste will be borne by the persons responsible for generating the waste.

The Act has provided a broad, flexible framework in which to conduct the necessary activities. It has authorized certain key facilities, set schedules and fees, articulated institutional interactions, provided the opportunity to analyze

the desirability of enhancements to improved program performance, and recognized the need for flexibility and contingency planning in a large, complex and controversial program that may span more than a century.

The approach which we have taken, and which we have recently outlined in a document entitled, Mission Plan, involves the following goals:

- We must protect the public health and safety and the environment.
- The program must be credible to the public by virtue of its integrity and technical excellence.
- The program must neither subsidize nor penalize nuclear power as an energy source.
- The program must be conducted in a cost-effective manner, with full cost recovery.

The strategy of the program is to ensure that the activities authorized by the Act are carried out in a vigorous manner; potentials for system-performance improvements are analyzed and incorporated where useful, including requests for new Congressional authority as allowed by the Act; and contingency plans are identified and evaluated to provide maximum confidence of the Act, notwithstanding uncertainties as to future Congressional authorization decisions and technical and institutional matters.

With these strategies in mind, let me give you a brief status of the program.

WHERE WE ARE

When the Act was passed, DOE had underway field and laboratory testing at nine different sites. Typically, the field studies included the drilling of boreholes to investigate subsurface conditions and to determine whether a potentially suitable host rock existed.

The field studies were supported by laboratory studies that focused on the isolation and engineering characteristics of the rock. Measurements of groundwater characteristics were made. Also in progress were systems analysis, waste-package development and repository-design efforts.

In February 1983, in accordance with the Act, DOE formally identified those nine sites as being potentially acceptable. Those sites, as most of you know, are: one site in Louisiana, two sites in Mississippi, one site in Nevada, two sites in Texas, two sites in Utah and one site in Washington.

Also, as required by the Act, siting guidelines were developed. After a long review process, including several public hearings and consultation with affected States, Indian tribes, and key Federal agencies, the Nuclear Regulatory Commission concurred with the guidelines by unanimous vote and the siting guidelines were issued in final form in December 1984 and became effective January 7, 1985.

After issuance of the guidelines, we issued in December 1984, draft environmental assessments on each of the nine potential sites. These draft environmental assessments evaluated each site in terms of the siting guidelines and, when final, will be the basis for the nomination and recommendation of sites for site characterization.

FIRST REPOSITORY

In the draft environmental assessment, we announced the proposed sites for nomination and recommendation for site characterization. The proposed sites for nomination are:

- Deaf Smith County, Texas,
- Hanford, Washington,
- Yucca Mountain, Nevada,
- Davis Canyon, Utah, and
- Richton, Mississippi.

Of these five potential sites, we proposed to recommend to the President for site characterization:

- Deaf Smith County,
- Hanford, and
- Yucca Mountain.

Earlier this year, we conducted 19 public hearings and 50 formal briefings in the six States containing the nine potentially acceptable sites. We are now reviewing more than 20,000 comments received on these draft environmental assessments.

After we have completed this review, we plan to finalize the environmental assessments, formally nominate sites suitable for characterization and recommend three sites to the President for site characterization. We currently plan to do this late this year.

CONSULTATION AND COOPERATION

The decision to characterize a particular site formally triggers the Nuclear Waste Policy Act's Consultation and Cooperation (C&C) agreement provisions between the Department and affected Tribe or State. However, well in advance of any legal requirement to do so, the State of Washington initiated Consultation and Cooperation agreement negotiations with DOE more than a year ago, as did the Yakima Indian Nation.

We have made considerable progress in reaching agreement with Washington on virtually all issues, the key exception being liability. Recently, the Umatilla Indians have requested the initiation of C&C agreement negotiations and the first such meeting was held last week. The only other Tribe determined to be an affected Indian Tribe under the Act, the Nez Perce, has indicated their intention to begin negotiations.

A Consultation and Cooperation agreement has the advantage of regularizing DOE and State or tribe relations. As called for in the Act, site characterization activity may proceed whether or not a Consultation and Cooperation agreement has been signed between the parties. However, I want to stress that we are committed to negotiating agreements with each of the affected parties and will diligently work to conclude agreements.

SITE CHARACTERIZATION

To collect the subsurface data, construction of exploratory shafts at each of the three sites approved for characterization will be necessary. DOE plans to construct two shafts at each site. These shafts will be to the depth of a proposed repository -- about 1,000 to 4,000 feet deep. Shaft construction at the three sites will take approximately two years with in situ tests planned for FY 1988 through FY 1990.

Before proceeding to construct shafts at a site approved for characterization, the Act requires that DOE prepare a Site Characterization Plan. These plans will be submitted to NRC and the affected States and Indian Tribes for review and comment and will be made available to the public. Public hearings will be held in the vicinity of each candidate site to inform the area residents of the plan and to receive their comments.

During site characterization, DOE will regularly report and consult with NRC and affected States and Indian Tribes on the nature and extent of site characterization activities and the information developed from such activities.

After site characterization is completed, DOE will make a final determination of the suitability of a site for development as the first repository. Technical questions of suitability of a site for development as a repository can only be resolved through the kind of subsurface studies which DOE will carry out during site characterization of those sites approved by the President.

DOE will evaluate each site and recommend one site to the President for the first repository. This recommendation will be accompanied by an Environmental Impact Statement which will have been prepared in accordance with Nuclear Waste Policy Act and National Environmental Policy Act requirements which include public review and comment and public hearings.

When the President recommends to Congress the site for the Nation's first repository, which is estimated to be in 1991, the host State Governor or legislature or affected Indian Tribe on whose reservation the repository is located may issue a notice of disapproval within 60 days of the President's recommendation. The disapproval can be overridden only by a resolution of both Houses of the U.S. Congress. This Congress must then weigh our facts against the State's or Tribe's objection.

If the disapproval is not overridden, the President must submit another repository site recommendation to Congress within 12 months. If no disapproval is submitted, or if the disapproval is overridden, then as prescribed by the Act, the site designation is effective and DOE will submit to the NRC a License Application within 90 days.

Under the Nuclear Waste Policy Act, the NRC has three years to review the application. NRC has indicated that three years is the minimum licensing review period required unless effective steps are taken to identify and resolve potential licensing issues during the next six years. We believe that licensing issues can be identified and resolved through the effective use of the on-going close and extensive interaction between DOE and NRC.

With this schedule in mind, we believe we will be in a position to begin receiving waste for disposal by January 31, 1998, as called for in the Act.

SECOND REPOSITORY

While the Act does not authorize the construction of a second repository, it does require DOE to carry out the siting and development activities essential to preparation for such a facility. These activities trail those for the first repository by about five years.

For the second repository, DOE may consider:

(1) sites identified as potentially acceptable but not nominated for the first repository;

(2) sites characterized but not chosen for the first repository site; and,

(3) sites found potentially acceptable from rock formations not previously studied in the first repository selection process.

The screening process for the second repository is currently in the regional phase in which we have recently compiled open-literature information on the geologic, environmental and socioeconomic conditions in crystalline rocks in 17 States in the North Central, Southeastern and Northeastern Regions of the country.

In April, we issued a document entitled, Region-to-Area Screening Methodology for the Crystalline Repository Project. The screening methodology will be used to narrow geologic focus from large regions to smaller areas in studies to identify potential crystalline sites. Using this screening methodology, later this year, we expect to identify approximately 15-20 areas in four-to-six of those 17 States in which area phase field work will be conducted. To date, no field testing has been conducted in those 17 States.

FINANCIAL ASSISTANCE

As required by the Act, financial assistance has been provided to States with potentially acceptable sites and affected Indian tribes to encourage participation in the analysis of technical information.

I would like to add at this point that I was pleased to learn from Senator Hickey a couple of months ago about the formation of a State-local technical group. Through this group, it is my understanding that local entities in Nevada are now involved in the overall program and that their participation has been financed with federal program money through contracts with the State's executive agency. I am encouraged to hear that the group is working effectively and that their efforts are being supported.

Essentially, we are not required to do more than what is authorized. However, the Act, in my opinion, leaves room for us to improve on that.

By considering all the elements of the program as part of a single system, we believe we can optimize on them as a unit to best meet the program requirements.

THE IMPROVED-PERFORMANCE PLAN

The Improved Performance plan reflects the opportunities built into the Act to evaluate options for enhancing what is authorized. Careful analyses of the provisions of the Act and of programmatic options have shown that increased confidence and improved performance can be achieved by emphasizing systems integration.

This concept of optimizing the system by integrating the facilities and components applies not only to the authorized plan but also to any other waste management system that could be

developed to meet the requirements of the Act. In particular, the Act requires DOE to complete a detailed study of the need for, and feasibility of, monitored retrievable storage (MRS) and submit a proposal to Congress for the construction of one or more MRS facilities.

Analyses to date continue to reinforce the tentative conclusion that an MRS facility fully integrated into the overall waste management system can significantly enhance several important program objectives. And those improvements include the following:

1. Improved transportation efficiency because spent fuel consolidation and packaging at the MRS facility would reduce the number of shipments to the repository with reduction in potential environmental impacts and risks to the public.

2. Increased reliability and flexibility in operating the system in an integrated cost-effective manner by incorporating an additional facility that can regulate the flow of waste to the repository.

3. Improved confidence in DOE's ability to meet schedules, particularly in beginning to accept quantities of waste no later than January 31, 1998. The integral MRS facility would be scheduled for initial operation as early as 1996.

4. An ability to accept significantly larger quantities of waste in the early years of operation, substantially reducing the added cost of providing increased at reactor storage capabilities. And,

5. Ability to focus repository licensing efforts on demonstrating the long-term isolation capability of the site because many of the operational functions, such as waste preparation, would be handled at the MRS facility.

In April, we identified three candidate sites expected to be included in a proposal to Congress. All three candidate sites are in Tennessee.

The studies and analyses necessary to fully describe the MRS facility and to define its potential costs and benefits are being prepared. The final results will be presented in a proposal to be submitted in January 1986 for Congressional consideration, as required by the Act. Should the Congress approve the construction of an integrated MRS facility, our improved performance plan will become our program plan.

In implementing a waste disposal system, the Act places responsibility for the transportation of spent fuel and high-level waste on DOE, but also states that nothing in the Act shall

be construed to affect Federal, State and local laws pertaining to the transportation of spent fuel and high-level waste. In addition, the Act directs that private industry be utilized to the fullest extent possible in performing the transportation functions.

Development of the transportation system is integral to the development and siting of repositories and in carrying out other activities within the total waste disposal system. Planning for the transportation system must provide for development and acquisition of the appropriate types and quantities of equipment and services as well as development of the appropriate institutional arrangements. DOE will publish in the next few days a draft Transportation Business Plan, which delineates activities within the development of a transportation system. A preliminary draft was issued last year. Since that time, several meetings have been held with interested parties to discuss transportation issues and to obtain private sector participation in the formulation of DOE's transportation business strategies.

We also plan to issue a draft Transportation Institutional Plan in September. This plan will propose processes and schedules for working with potentially affected and interested groups in the implementation of the transportation aspects of the Act.

The Department of Transportation is responsible for routing and certain safety aspects of transportation and NRC is responsible for certifying casks and for safeguards. Through its Ruling HM-164, the Department of Transportation has established the proper Federal-State relationship.

Transportation is probably the part of our activities which is most visible. For this reason, even though routing decisions will not be made for many years, I encourage you to establish a dialogue among yourselves, with the Department of Transportatin and with us.

All of us involved in and concerned about these activities recognize that this program is highly controversial. There are, indeed, many constituencies with widely varying views of how, when and whether elements of the program should be carried out.

The Act is a remarkable piece of legislation in that there is general agreement on its key provisions. Nevertheless, this is a program intended to span more than a century, with some choices by Congress, States, Indian tribes and the nuclear power industry yet to be made. Contingency plans, therefore, must be considered.

CONTINGENCY PLANS

For example, what happens if there is a substantial delay in repository operation?

First, our basic assumption is that the repository will be built on schedule. Should the repository be substantially delayed, however, one of two contingency approaches would be pursued:

1. If the MRS facility is approved by Congress and constructed, it can begin to accept spent fuel in a timely manner and package and store it within the authorized storage capacity until a repository becomes operational.

2. If the MRS is not approved, or if it is significantly delayed, increasing quantities of spent fuel will have to be stored at reactor sites. In that event, the pools for storing the fuel will continue to be filled, and additional on-site storage capacity through the use of dry storage in casks and similar technologies would have to be employed.

In addition, the Act authorizes us to provide up to 1,900 metric tons of storage for utilities who run out of storage space prior to our accepting their spent fuel for disposal. And, further, we are conducting several cooperative agreements with utilities to demonstrate rod consolidation and dry storage technologies to make available new licensed technologies for more efficient storage capabilities at the reactor sites.

What happens if either no site is found acceptable or if the host State or States disapprove the selection and that disapproval is not overridden?

In this event, we have two main contingency plans:

1. If an MRS has been authorized and constructed, it can accept spent fuel on or ahead of schedule, packaging and storing it within its authorized storage capacity until the "second" repository is authorized and operational. This would mean that the "second" repository could become the "first" repository.

2. If an MRS has not been approved, spent fuel will continue to be stored at reactor sites in fuel pools and possibly in dry storage.

Should no repository be constructed and an MRS facility not be approved, utilities would continue to be responsible for storing the spent fuel at reactor sites. In this event, the Nation would return to the situation where it had no viable, assured method for the permanent disposal of spent fuel and high-level waste.

We realize the difficulty in predicting the future and that there are many uncertainties-- some of which remain to even be identified. I, therefore, believe that an important part of our planning is the development of contingency plans such as those I have just described.

Contingency plans are being further developed for each of the program areas far below the level of detail which I have just presented. And we will continue to pursue contingency plans, as necessary, until a satisfactory solution has been demonstrated.

CONCLUSION

Failure to solve the national problem of safe, permanent disposal of high-level waste would prolong the potential risks of spent fuel and high-level waste stored all around the country. It is important for this country, for each State and for each citizen that we succeed.

Protection of health, safety and the environment are paramount. To remain with the status quo is failure.

The Nuclear Waste Policy Act provides for a unique Federal-State partnership which can and must succeed. I want to give my compliments to Senator Hickey and to all of you here for your advanced thinking and your willingness to work together with one another in a coordinated manner.

You have my commitment to work with you whether we have a formal consultation and cooperation agreement now or ever.

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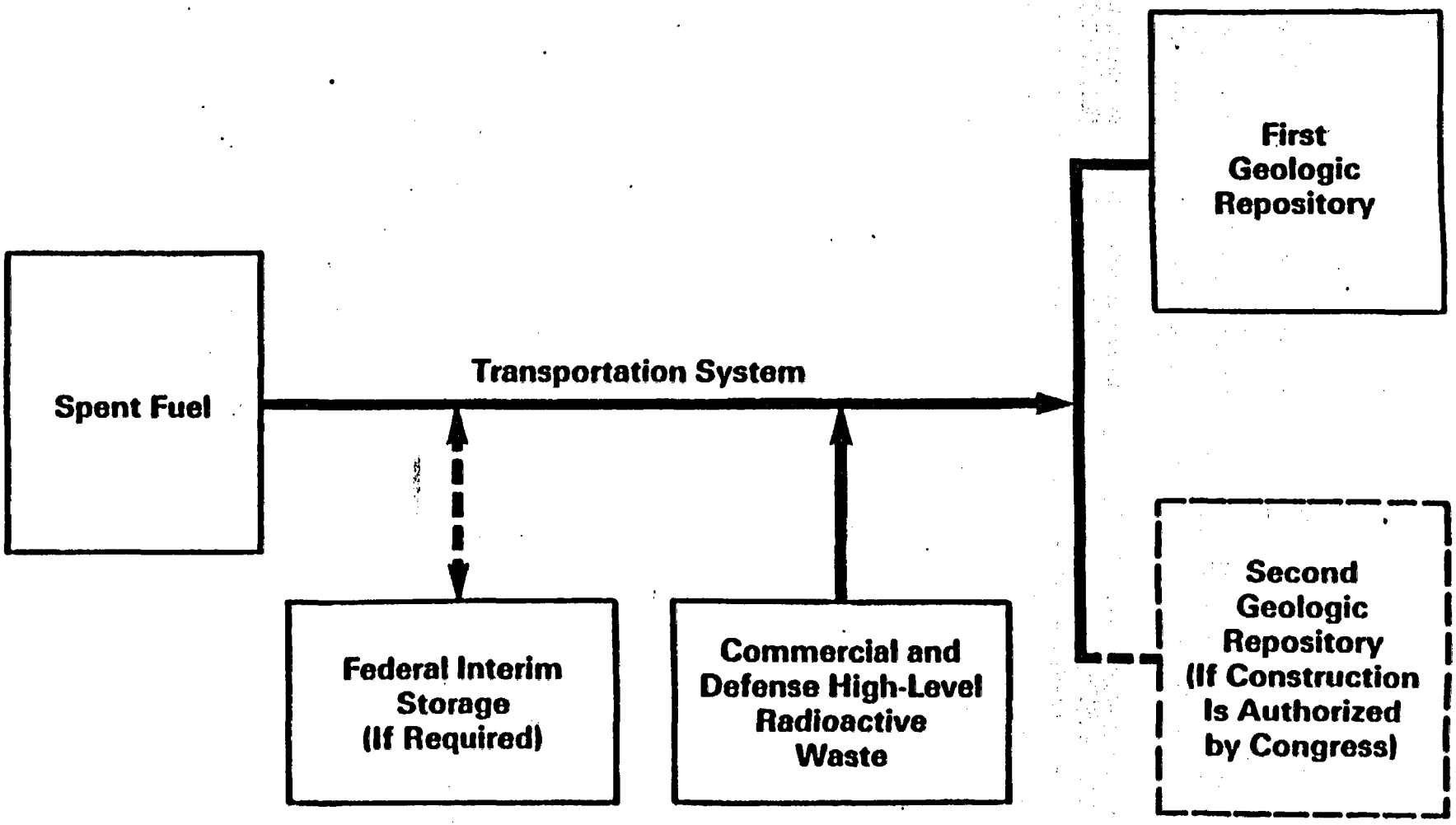
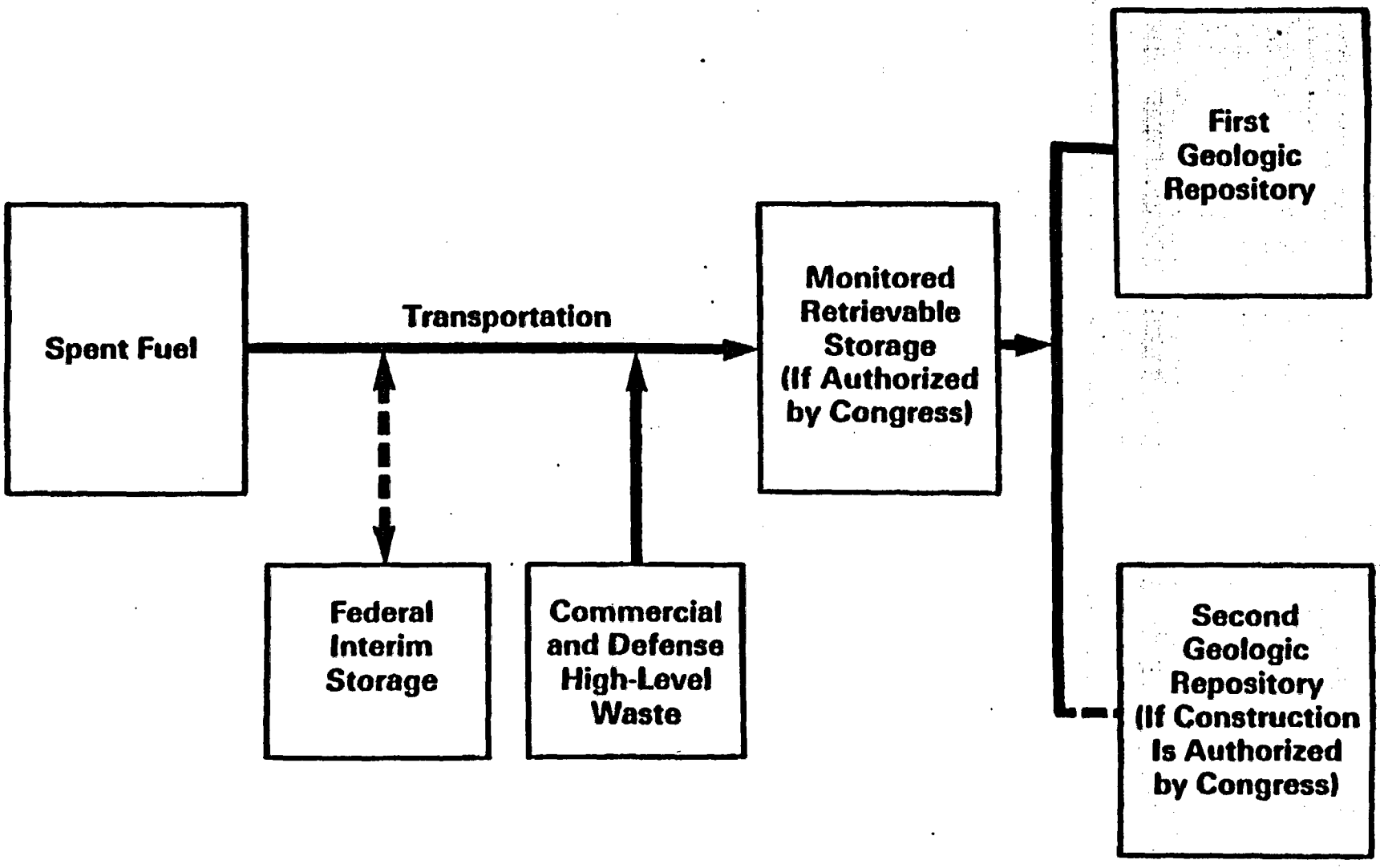
Authorized System



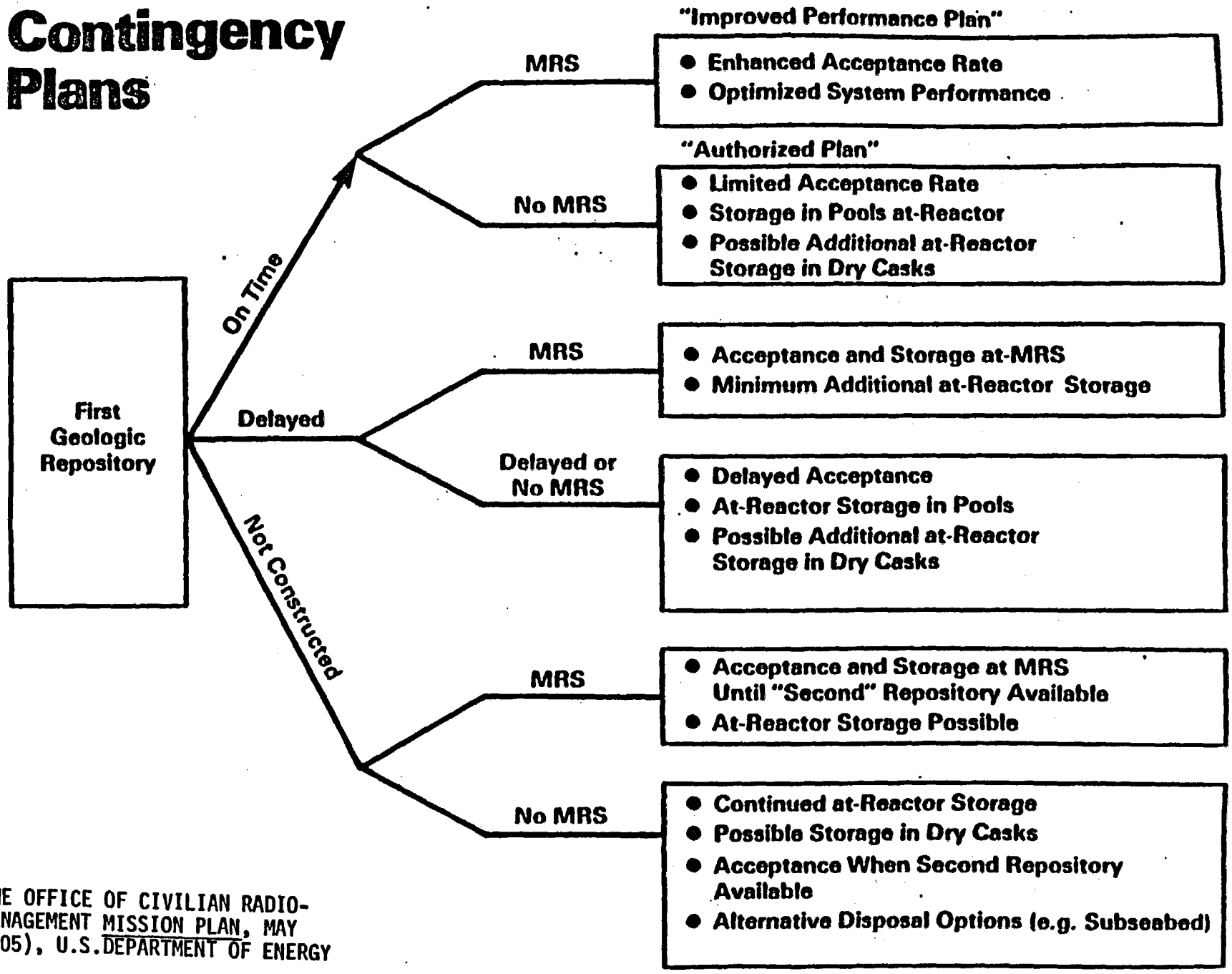
EXCERPT FROM THE OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT MISSION PLAN, MAY 1985 (DOE/RW-0005), U.S. DEPARTMENT OF ENERGY

Improved Performance System



EXCERPT FROM THE OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT MISSION PLAN, MAY 1985 (DOE/RW-0005), U.S. DEPARTMENT OF ENERGY

Contingency Plans



EXCERPT FROM THE OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT MISSION PLAN, MAY 1985 (DOE/RW-0005), U.S. DEPARTMENT OF ENERGY

Department of Energy
Nevada Operations Office
P. O. Box 14100
Las Vegas, NV 89114-4100

AUG 0 8 1985

W. J. Purcell, Director, Office of Geologic Repositories, DOE/HQ (RW-20), FORSTL

NNWSI PROJECT MONTHLY REPORT FOR JUNE 1985

Enclosed is the NNWSI Monthly Report for June 1985 covering the technical activities and status of the NNWSI Project.

for Donald L. Vieth, Director
Waste Management Project Office

WMPO:DLV-1371

Enclosure:
As stated

Science Applications International Corporation

L85-SS-SMJ-136

July 31, 1985

Dr. Donald L. Vieth, Director
Waste Management Project Office
U.S. Department of Energy
Nevada Operations Office
Post Office Box 14100
Las Vegas, NV 89114

Subject: NNWSI Project June 1985 Monthly Report

Dear Dr. Vieth:

Enclosed is the NNWSI Monthly Progress Report for June 1985 covering technical activities and status of the NNWSI Project. Also enclosed is a letter of transmittal for your signature.

Sincerely,

SCIENCE APPLICATIONS
INTERNATIONAL CORPORATION

JR LaRiviere for

Michael E. Spaeth
Project Manager

MES:SMJ:rlv

Enclosures:
As stated

cc w/encls.:
Project File 9.2.1.7.4.1.3
Record Center