UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE COMMISSION

In the Matter of	)	
PROPOSED RULEMAKING ON THE STORAGE AND DISPOSAL OF NUCLEAR WASTE	)	PR-50, 51 (44 Fed. Reg. 61,372)
(Waste Confidence Rulemaking)	)	

WRITTEN STATEMENT OF
CONSOLIDATED GROUP NUMBER FOUR

In its "Second Prehearing Memorandum and Order," dated November 6, 1981, the Commission provided for the next phase of this proceeding by:

(1) consolidating participants into five separate groups;

(2) providing for the submittal of written statements by each consolidated group, plus supplementary written statements by individual participants within each group; and

(3) providing for oral presentations before the Commission by each consolidated group.

The members of consolidated group number four (Group 4), with the exception of the American Nuclear Society and American Institute of Chemical Engineers, hereby respond to the Second

Prehearing Memorandum and Order through the submittal of this written statement.*/

In considering the matters identified in the Second Prehearing Memorandum and Order, the statement first addresses the group's basic views as to the merits and arguments on the major issues that have been identified in the proceeding. This discussion is then followed by a consideration of recent developments.

The Second Prehearing Memorandum and Order also requires

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*/ Under the terms of the Second Prehearing Memorandum and Order, the following participants were consolidated into Group 4: American Institute of Chemical Engineers; American Nuclear Society; Association of Engineering Geologists; Atomic Industrial Forum; Bechtel National; Consumers Power; General Electric; Neighbors for the Environment; Scientists and Engineers for Secure Energy; Tennessee Valley Authority; the Utilities group (Niagara Mohawk Power Corporation, Omaha Public Power District, Power Authority of the State of New York, and Public Service Company of Indiana, Inc.); and the Utility Nuclear Waste Management Group-Edison Electric Institute. However, in order to emphasize the independent nature of their participation, the American Nuclear Society and American Institute of Chemical Engineers have chosen to submit their own written statements. Further, TVA, as a Federal agency, wishes to stress the independent nature of its participation and the fact that its views are detailed in its earlier pleadings in this proceeding; as are those of the other individual group members in theirs. The members also wish to note that consolidated participation should in no way be viewed as associating any one participant with another, and that all members reserve the right to proceed separately should differing views develop. See also Letter to U.S. Nuclear Regulatory Comm'n, Attn: Marshall E. Miller, from John H. Peck, Chairman, Association of Engineering Geologists Nuclear Waste Subcommittee, dated November 27, 1981.

page citations to material in the record, and these are included. However, due to the size of the record, they are by no means exhaustive. Rather, they emphasize the submittals of Group 4 members and the Department of Energy. For most of the propositions contained in this statement, considerably more support exists in the record than that which is cited herein.

I

BASIC VIEWS CONCERNING THE MAJOR ISSUES IDENTIFIED IN THE PROCEEDING

A. Confidence in the Safe Storage of Spent Fuel

The storage of spent fuel is best characterized by its inactivity -- there is little stored energy either in the fuel or storage system to act as a driving force. The storage system is a benign environment, particularly in comparison with the pre-storage power generation environment. As detailed in the record, the technology exists today to provide for the extended safe storage of spent fuel in water-filled basins. In addition, other options, such as dry storage and fuel disassembly, are expected to provide alternative extended storage modes. There are no technical impediments to spent fuel storage beyond the expiration of any particular operating license.[1/]

Water basin storage technology is well-known, highly developed and widely used today.[2/] The current technology for

providing extended storage is based on decades of experience.[3] Zircaloy clad fuel has been in water basin storage for more than 20 years and stainless steel clad fuel has been stored for as long as 12 years, both with no indication of degradation. Several researchers have confirmed the capability of spent fuel to withstand extended periods of storage in water basins. The evidence gathered to date indicates that fuel can be stored in water basins for at least 50 years and, considering the ability to encapsulate spent fuel if degradation were to occur, indefinitely into the future.[4]

Spent fuel pool structures have also proven to be durable. System components, such as the basin structure, building and radioactive gas waste treatment system, are all of standard design. None are unique, complicated or exotic. Pool liners and related equipment have shown little evidence of corrosion. Any leakage which did occur in liners could be remedied by repair or replacement, as could degradation in pipes and pumps.[5]

A number of approaches are available for expanding storage capacity. Spent fuel storage is primarily located at on-site reactor spent fuel storage pools.[6] The reracking of reactor spent fuel pools has been the method most frequently utilized by utilities to provide for increased storage capacity. Although some reactor spent fuel pools are projected to reach their maximum estimated capacity by the early-to-mid 1980's,

many can be increased in capacity to provide adequate storage for significantly longer periods.[7/]

An alternative to the reracking of existing on-site pools to meet expanding storage needs is to utilize separate storage facilities either at the reactor site or away-from-reactor locations. Away-from-reactor storage is taking place in two water basins constructed at reprocessing facilities. Further, there appears to be no technical reason why the capacity of all of these facilities could not be expanded by reracking.[8/]

New independent spent fuel storage pools may also be constructed, either at a reactor site or an away-from-reactor facility. From a technical standpoint, the design of such pools would be similar to existing pools. Further, specific licensing requirements for such independent facilities are included in NRC regulations.[9/]

Other technologies offer the potential for further enhancing spent fuel storage capability. For example, dry storage -- whether employed on-site or off-site -- is promising, and is also covered by current NRC regulations. The disassembly of fuel assemblies and storage of fuel rods in canisters is also a feasible technology. The Department of Energy has a dry fuel storage demonstration program involving both above surface and near-surface facilities and has directed activities toward the development of fuel disassembly techniques.[10/]

In sum, spent fuel storage in water-filled basins is a safe, available, proven technology. It has been widely utilized, thoroughly studied and can provide a safe, environmentally acceptable method of storing spent fuel, either on-site or off-site, for an indefinite period. Additional options, such as dry storage and fuel disassembly, can further expand the capability for safely storing spent fuel.

B. Confidence in Safe Disposal

1. Waste disposal technology

Confidence in safe disposal must be based on an evaluation of expert opinion, accumulated research and development, and the direction, progress and likely results of ongoing programs.[11/] The Department of Energy statement of position provides a description of the research and development performed, and experimental and field test data accumulated to date; plus its applicability to the design, construction and operation of a geologic repository. This approach is consistent with the Record of Decision formally adopting a programmatic strategy for the disposal of commercially-generated radioactive waste in mined geologic repositories.[12/]

The soundness and availability of geologic disposal for radioactive waste are supported by the results of numerous studies by expert groups. As early as 1957 a committee of the National Academy of Sciences proposed the burial of radioactive wastes in deep, geologically stable rock formations. Later,

the American Physical Society found that safe and reliable methods for the management of nuclear wastes were available. Shortly thereafter, in a comprehensive report on energy alternatives (the CONAES Report), a select committee of the National Research Council -- composed of members drawn from the Councils of the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine -- considered the question of radioactive waste disposal and arrived at conclusions and recommendations essentially identical to those of the American Physical Society's study group. Outside of the United States, the very thorough Swedish KBS work concluded that waste could be disposed of so as to adequately protect man for hundreds of thousands of years. This conclusion was subsequently supported in a National Academy of Sciences report on the KBS-II (unreprocessed spent nuclear fuel) conclusions.[13/]

A mined geologic repository disposal system provides a set of engineered and natural barriers to prevent nuclide migration to the accessible environment. These may include: (1) a high-integrity waste form with low leachability; (2) a canister within which the waste is placed; (3) additional engineered barriers, such as an overpack, backfill, etc.; (4) a long transit time for any credible pathway from the repository within a stable geologic environment deep below the surface; (5) a variety of minerals through which waste must

travel to reach the biosphere and which, in turn, might absorb nuclides or chemically react with and immobilize them; and (6) mechanisms for the dilution of waste in any water pathway which it might enter.[14] A repository, based on the system concept of design, can provide for containment of radioactive material during the period dominated by fission product decay -- when it poses the largest potential threat to public health and safety due to greater thermal driving forces and radiotoxicity -- and a high degree of isolation thereafter.[15]

Technology exists for the practicable, conservative implementation and application of all components of an overall geologic repository system. While site-specific data and information are essential in order to provide appropriate bases for specific repository engineering design, construction, and operation, the current lack of complete data and information with respect to each and every facet of geologic disposal does not constitute "gaps" in our scientific or technologic knowledge. No scientific or technological "breakthrough" is required for the proper use and application of the available data and information as required.[16]

Where so-called "uncertainties" are perceived to exist (mostly in the areas of waste/host rock interaction and radionuclide migration), they are readily amenable to conservative bounding and can be compensated for by a wide range of operational

approaches and engineered barriers. While additional development may be required for some of these engineered barriers, they represent straightforward extensions of existing technologies and are based on the application of known physical and/or chemical principles.[17]

Site selection criteria have been refined, and technology exists for determining the geologic, seismologic and hydrologic characteristics of sites and their surroundings. Areas have been found where most natural geologic processes operate at rates such that containment in a mined repository would not be significantly reduced over periods of at least several hundred thousand years, and where rates of groundwater movement and flow-path distances to the biosphere are suitable for containing radionuclides for periods of thousands to hundreds of thousands of years. Continuing development and improvement of predictive models, plus a program of monitoring during the operational phase of the repository, will provide an even higher level of confidence in the ability of the repository to retain the radionuclides for the necessary length of time.[18]

The waste form itself represents a significant containment barrier, in the form of a very low leach rate, should water ever reach the waste. Engineered barriers to the migration of radionuclides can also be provided through a number of mechanisms, such as the addition of selected materials which can absorb or otherwise retard the movement of radionuclides from the package and the repository.[19]

Currently available technology is adequate to proceed with the design and construction of a repository, using appropriate engineering conservatism. Rock properties can be adequately characterized by a combination of laboratory and in situ testing. Induced stresses due to mining can be predicted and controlled by excavation methods and the design of rooms and corridors.[20/]

The structure of the DOE program adequately compensates for any "uncertainties." This is achieved through the application of appropriate site suitability criteria to the various geologic environments; the provision of redundant, independent, natural and engineered features to retard nuclide movement; and the utilization of conservative engineering practices. By applying a methodical, step-by-step approach in the program, experience and information gained at each step will contribute to a reduction in uncertainties and provide a basis for proceeding to the next step. Residual uncertainties can be accommodated by considering the bounds of their worst potential impacts on overall disposal system performance.[21/]

2. Repository availability

The DOE statement of position in this proceeding states that implementation of its waste disposal strategy will result in the operation of a geologic repository sometime between 1997 and 2006.[22/] More recently that range has been narrowed to 1999-2006.[23/]

The present DOE program focuses upon all of the matters requiring attention, and DOE's forecast of potential operational dates for the first repository includes more than adequate allowance for uncertainties.[24/] All in all, the contingency period of seven years between reference (1999) and extended (2006) cases provides more than ample time for any program reorientation, modification, etc., that might be required.[25/]

C. Institutional Matters

Insofar as institutional matters are concerned, it is clear that no insurmountable obstacles exist. The Executive Branch has maintained a strong commitment to the development and implementation of a sound waste management policy. President Carter's February 1980 statement regarding nuclear waste management -- based in large part on the extensive consensus building process of the Interagency Review Group (IRG) report -- restated the long-standing responsibility of the Federal government to deal with existing as well as future waste management needs. This commitment was recently reaffirmed by President Reagan who, in his October 8, 1981 statement, instructed the Secretary of Energy to proceed swiftly toward the deployment of means for storing and disposing of commercial high-level radioactive waste.

In the legislative arena, in 1980 the Senate passed a

comprehensive waste policy bill, the Nuclear Waste Policy Act.[26] Section 309 of that bill would have provided a mechanism for federal-state interaction, including a means for the resolution of conflicts. Although the Senate and House of Representatives failed to reach agreement in the late stages of the 96th Congress, comprehensive waste management legislation received considerable attention again in 1981. Bills now in the House and Senate, such as H.R. 5016 and S. 1662, include provisions addressing state participation in repository siting.

Federal agencies are also making progress. The Department of Transportation has recently adopted rules which will preempt state and local prohibitions on the transportation of radioactive materials, while permitting state agencies with state-wide enforcement authority to establish alternate routes.[27] For all practical purposes, these regulations should remove the potential for significant state and local impediments to the transportation of materials such as spent fuel. In another area, the NRC has adopted final rules governing repository licensing procedures and has proposed other rules which would establish applicable technical criteria, while the EPA is developing environmental protection standards for high-level radioactive waste, to be codified in 40 C.F.R. Part 191.[28]

It is clear that the governmental system and officials are capable of formulating and executing the

necessary policy.[29] The DOE approach itself includes consideration of regulatory matters, environmental matters, public acceptance, and the need for site characterization and qualification.[30] The relevant factors have been identified and all are being addressed.

D. Storage and Disposal System Integration

The individual components of an integrated spent fuel management system are interactive. The needed availability and capacity of one component affects the availability and capacity of others. As a result, the number of possibilities is great. It is obvious, however, than an integrated system can be fashioned in any number of ways to accommodate the continuing production of spent nuclear fuel.

The latest DOE base case planning projections (which assume maximum basin reracking at reactors, no transshipment of fuel between reactors, and the maintenance of full-core reserve) indicate an initial need for additional storage capacity in 1986.[31] Assuming repository operation commencing in 1999, the cumulative need for additional storage capacity slowly increases to a maximum of only about 18,000 MTU sometime around 2003.[32] Such a gradual increase in storage capacity requirements obviously could be met in a variety of ways, particularly when such measures as rod compaction and dry storage are considered.

Spent fuel, of course, will ultimately have to be shipped from reactors either to interim storage facilities, and then to permanent repositories, or directly to repositories themselves. The precise number of shipping casks needed at a given time will be determined by the particular strategy chosen, fuel generation rates, the loading/unloading capability of the away-from-reactor facility, and the unloading capability of the repositories. However, an analysis based upon spent fuel generation rates higher than those now being projected by DOE shows that there is no reason why cask requirements could not be met.[33/]

Finally, the costs of disposal are a small fraction of the overall cost of delivered electricity. Accordingly, they present no major obstacle to the implementation of an integrated waste management system.[34/]

E. Conclusions

As presented in the Commission's rulemaking notice, the purpose of this proceeding is to assess the degree of confidence that radioactive wastes produced by nuclear facilities will be safely disposed of, to determine when any such disposal will be available, and whether such wastes can be safely stored until they are safely disposed.[35/] Based on the information available to the Commission, it should find reasonable assurance that:

(1) Spent nuclear fuel from licensed facilities can be stored in a safe and environmentally acceptable manner on-site or off-site until disposal facilities are available;

(2) Sufficient additional storage capacity for spent nuclear fuel from licensed facilities will be available;

(3) Interim storage systems for spent nuclear fuel from licensed facilities will be integrated into an acceptable operating system;

(4) Spent fuel from licensed facilities can be disposed of in a safe and environmentally acceptable manner;

(5) The Federal government's programs for establishing geologic repositories are an effective and reasonable means of developing a safe and environmentally acceptable disposal system;

(6) The Federal government's schedules providing for the establishment of a geologic repository to be operational sometime between 1999 and 2006 are conservative; and

(7) No aspect of either spent fuel storage or waste disposal will be prohibitively expensive and, hence, unavailable.

Accordingly, the Commission should promulgate a rule finding confidence in the ability to handle spent fuel and waste and providing that neither the safety nor environmental implications of maintaining spent fuel on-site beyond the anticipated expiration of a nuclear reactor license need be considered in any individual licensing proceeding.

II

RECENT DEVELOPMENTS

In its Second Prehearing Memorandum and Order, the Commission requested that participants address the significance of certain recent developments. These are discussed below, seriatim.

A. Waste Management Program Changes

1. New reprocessing policy

The current policy in favor of disposing of reprocessing waste instead of spent fuel in no way invalidates the present record. Insofar as this proceeding is concerned, confidence requires the ability to dispose of waste by a single method. Because high-level waste as contained in spent fuel discharged from reactors is necessarily the first form the waste takes, consideration of spent fuel constitutes a valid, representative case.*/

/ From the standpoint of energy resource conservation, of course, the disposal of reprocessing waste is to be preferred over the disposal of spent fuel. However, as has also been noted, because spent fuel disposal involves greater difficulty than solidified reprocessing waste (due to its higher activity and less easily handled form), the showing being made in this proceeding that spent fuel can be disposed of also supports an identical conclusion regarding disposal of reprocessing waste. Cross-Statement of the Utility Nuclear Waste Management Group-Edison Electric Institute, p. I-1n. (Sept. 1980).

The DOE program provides for the disposal of high-level waste in a timely fashion. DOE waste management strategy has always envisioned and continues to embody the concept of high-level waste repositories capable of receiving both spent fuel and reprocessing waste.[36/] This approach, of course, is fully consistent with the results of the Department of Energy's environmental analysis which led to the current program of waste management emphasizing the use of mined repositories in geologic formations "capable of accepting radioactive wastes from either the once-through or reprocessing cycles."[37/] DOE has specifically stated that decisions to dispose of or reprocess spent fuel will be made by the owners of that fuel, depending upon the value of the fuel compared to the cost of its recovery;[38/] and, of course, the outside date projected by DOE for repository operation (2006) has remained unchanged.[*/]

2. Dismantling of DOE

The possible dismantling of DOE is, at this point at least, still only a proposal which may or may not come to

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*/ Further, since any reprocessing related issues can be taken up in reprocessing plant licensing proceedings, GESMO, a future waste confidence proceeding, etc., there is no need to either reopen or expand the current proceeding to consider them now.

pass. No matter the outcome, however, the Federal government's ability to implement the waste management program will not be jeopardized.

Even if DOE were abolished, waste management functions would be reassigned and the Administration's commitment to removing obstacles to the increased use of nuclear power and, in particular, proceeding swiftly to a means of disposing of waste, will ensure that the program will not be impaired.[39/]

3. Test and evaluation facility

The development of a test and evaluation (T&E) facility, as described in recent testimony before Congress, should not impair the repository schedule. Rather, it can serve to enhance the overall waste management effort. An operational repository is still scheduled to be available within the 1999-2006 time frame, and the additional information gained from the T&E operation should be useful in both the licensing process and the early stages of full-scale repository operation.[40/]

B. Away-From-Reactor Storage Policy

Federal away-from-reactor (AFR) spent fuel storage represents a sound, logical approach to providing increased storage capacity. Such a facility is provided for in legislation currently pending before Congress.[41/]

Even without Federal AFR's, however, adequate spent fuel

storage capacity can be made available. As discussed in section I.D, supra, current DOE projections indicate that a relatively modest spent fuel storage capacity expansion effort will provide the required storage capacity. AFR's employed to increase capacity could be privately owned. In addition, technologies such as dry storage and rod compaction offer the potential to further enhance storage capability.[42/] Thus, the conclusions reached in Part I, supra, with respect to the availability of spent fuel storage capacity, are not affected by the recent change in Federal AFR policy.

Respectfully submitted,

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December 21, 1981

CITATIONS

1. Statement of Position of the Utility Nuclear Waste Management Group-Edison Electric Institute (Document 4) (July 7, 1980), pp. 17-31; Statement of Position of the United States Department of Energy (April 15, 1980), pp. IV-1 to -63, IV-73 to -74.

2. Op. cit., UNWMG-EEI (Doc. 4) (Ref. 1), pp. 2-4; Summary Statement of Position of the General Electric Company (July 7, 1980).

3. Op. cit., UNWMG-EEI (Doc. 4) (Ref. 1), pp. 5-11; Statement of Position of the Atomic Industrial Forum (July 7, 1980), p. 20.

4. Op. cit., AIF (Ref. 3), p. 20; op. cit., UNWMG-EEI (Doc. 4) (Ref. 1), pp. 10-11, 22; Statement of Position of the American Nuclear Society (July 3, 1980), pp. 33-34; Tennessee Valley Authority's Statement of Position (July 7, 1980), p. 5; Statement of Position by the American Institute of Chemical Engineers (June 23, 1980), pp. 3-4.

5. Op. cit., UNWMG-EEI (Doc. 4) (Ref. 1), pp. 24-25; Cross-Statement of Position of Consumers Power Company (September 5, 1980), pp. 8-12.

6. Op. cit., UNWMG-EEI (Doc. 4) (Ref. 1), p. 25.

7. Op. cit., UNWMG-EEI (Doc. 4) (Ref. 1), p. 31.

8. Op. cit., UNWMG-EEI (Doc. 4) (Ref. 1), pp. 6, 15.

9. Op. cit., UNWMG-EEI (Doc. 4) (Ref. 1), pp. 34-37; 10 C.F.R. Part 72.

10. Op. cit., DOE (Ref. 1), pp. IV-12 to -20; op. cit., TVA (Ref. 4), pp. 10-11; Letter to Marshall E. Miller from Omer F. Brown, II, Attorney, Department of Energy, dated March 27, 1981, pp. 2-4.

11. Op. cit., AIF (Ref. 3), p. 7; Cross-Statement of the Utility Nuclear Waste Management Group-Edison Electric Institute (September 5, 1981), p. II-6.

12. 46 Fed. Reg. 26,677.

13. Op. cit., AIF (Ref. 3), pp. 8-11; op. cit., ANS (Ref. 4), pp. 18-28; Scientists and Engineers for Secure Energy Suggestions as to the Nature and Scope of Further Proceedings, Additional Areas (October 6, 1980), pp. 7-9.

14. Op. cit., ANS (Ref. 4), pp. 15-16; op. cit., UNWMG-EEI (Doc. 2) (Ref. 1), pp. I-26 to -29.

15. Op. cit., UNWMG-EEI (Doc. 2) (Ref. 1), pp. I-5, VI-3.

16. Op. cit., UNWMG-EEI (Doc. 2) (Ref. 1), pp. III-A-10 to -11, VI-2; Cross-Statement of the United States Department of Energy (September 5, 1980), pp. II-76 to -81; Statement of Position of Neighbors for the Environment (July 4, 1980), p. 2.

17. Op. cit., UNWMG (Doc. 2) (Ref. 1), pp. III-B-1 to -F-7; op. cit., DOE (Ref. 16), pp. II-76 to -81; op. cit. AIF (Ref. 3), p. 8.

18. Association of Engineering Geologists Policy Statement on Disposal of High-Level Radioactive Waste (June 27, 1980); op. cit., UNWMG-EEI (Doc. 2) (Ref. 1), pp. III-A-1 to -19, III-D-1 to -19, III-G-1 to -11, VI-3.

19. Op. cit., UNWMG-EEI (Doc. 2) (Ref. 1), pp. III-B-1 to -18.

20. Op. cit., UNWMG-EEI (Doc. 2) (Ref. 1), pp. III-D-1 to -19; Statement of Bechtel National, Inc. (July 3, 1980), pp. 2-3.

21. Op. cit., DOE (Ref. 1), pp. II-43 to -198; op. cit., DOE (Ref. 16), pp. III-7 to -13.

22. Op. cit., DOE (Ref. 1), p. I-4.

23. Response of the United States Department of Energy to Natural Resources Defense Council Motion for Judgment (September 11, 1981), p. 7.

24. Op. cit., DOE (Ref. 16), pp. II-45 to -52; op. cit., UNWMG-EEI (Doc. 2) (Ref. 1), p. IV-2.

25. Op. cit., DOE (Ref. 1), pp. III-9 to -10; op. cit., AIF (Ref. 3), pp. 16-17, 19; op. cit., UNWMG-EEI (Ref. 11), pp. IV.H-1 to -2; op. cit., DOE (Ref. 23), p. 7.

26. S. 2189, 96th Cong., 2d Sess., 126 Cong. Rec. S10266 (daily ed. July 30, 1980).

27. 45 Fed. Reg. 5298.

28. 46 Fed. Reg. 13,971, 23,696, 35,280.

29. Op. cit., Consumers Power Company (Ref. 5), pp. 4-6; Comments of Niagara Mohawk Power Corp., Omaha Public Power District, Power Authority of the State of New York, and Public Service Company of Indiana, Inc. on the Working Group Report (March 5, 1981), p. 2.

30. Op. cit., DOE (Ref. 1), pp. III-31 to -42; op. cit., DOE (Ref. 16), pp. II-31 to -44; op. cit., UNWMG-EEI (Ref. 11), pp. III-14 to -17, V-1 to -27.

31. Op. cit., DOE (Ref. 10), Table 1.

32. Op. cit., DOE (Ref. 10), Figure 1.

33. Op. cit., DOE (Ref. 1), pp. VI-7 to -11.

34. Op. cit., DOE (Ref. 1), pp. VI-13 to -14; op. cit., UNWMG-EEI (Doc. 2) (Ref. 1), pp. V-1 to -6.

35. 44 Fed. Reg. 61,372, 61,373.

36. Op. cit., DOE (Ref. 1), p. II-19.

37. Final Environmental Impact Statement, Management of Commercially Generated Radioactive Waste (October 1980), pp. 1.6, 2.7; 46 Fed. Reg. 26,677 (emphasis added).

38. Letter to J. Dexter Peach from P. Marshall Ryan (April 10, 1981), p. 3, reprinted as "Appendix II" in, Report by the Comptroller General of the United States, Is Spent Fuel or Waste from Reprocessed Spent Fuel Simpler to Dispose Of? (June 12, 1981).

39. Presidential Nuclear Policy Statement, October 8, 1981.

40. October 6, 1981 statement of Shelby T. Brewer, Assistant Secretary for Nuclear Energy, U.S. Department of Energy, before the Senate Committees on Energy and Natural Resources and Environment and Public Works, p. 2.

41. S. 1662, 97th Cong., 2d Sess. (1981).

42. Op. cit., DOE (Ref. 10), pp. 2, 4; op. cit., TVA (Ref. 4), pp. 1-2, 10-12.

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CERTIFICATE OF SERVICE

I hereby certify that a copy of a letter on behalf of Consolidated Group Number Four to the Commissioners in the above-captioned proceeding and a copy of the "Written Statement of Consolidated Group Number Four," both dated December 21, 1981, have been served on the following by deposit in the United States mail, first class, postage prepaid, this 21st day of December, 1981:

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