No. 132, Original

IN THE

Supreme Court of the United States

STATE OF ALABAMA, STATE OF FLORIDA, STATE OF TENNESSEE, COMMONWEALTH OF VIRGINIA, AND THE SOUTHEAST INTERSTATE LOW-LEVEL RADIOACTIVE WASTE MANAGEMENT COMMISSION,
Plaintiffs,

v.

STATE OF NORTH CAROLINA,
Defendant.

On Exceptions to the Preliminary and Second Reports of the Special Master

BRIEF OF *AMICUS CURIAE* ROCKY MOUNTAIN LOW-LEVEL RADIOACTIVE WASTE COMPACT BOARD, NORTHWEST INTERSTATE COMPACT COMMITTEE ON LOW-LEVEL WASTE MANAGEMENT, CENTRAL INTERSTATE LOW-LEVEL RADIOACTIVE WASTE COMMISSION, AND MIDWEST INTERSTATE LOW-LEVEL RADIOACTIVE WASTE COMMISSION IN SUPPORT OF PLAINTIFFS

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INTERESTS OF THE *COMPACT AMICI* [1]

A. Rocky Mountain Low-Level Radioactive Waste Compact Board.

The Rocky Mountain Low-Level Radioactive Waste Compact ("Rocky Mountain Compact") is an interstate compact that was created by legislation enacted by the member states of Colorado, Nevada and New Mexico. The Rocky Mountain Compact was approved by Congress pursuant to the Omnibus Low-Level Radioactive Waste Interstate Compact Consent Act, Pub. L. No. 99-240, § 226, 99 Stat. 1859, 1863-71 ("Omnibus Consent Act") at the same time as the Southeast Compact and five (5) other interstate compacts. The Rocky Mountain Low-Level Radioactive Waste Compact Board ("Rocky Mountain Board") comprises governor-appointed representatives from each of its member states and it administers the Rocky Mountain Compact.

Since its inception, the Rocky Mountain Compact has taken care of its responsibility to provide disposal options for the generators in its member states. Currently, the Rocky Mountain Board is party to an arrangement with the Northwest Interstate Compact Committee on Low-Level Waste Management that *inter alia* allows the Rocky Mountain Board to authorize export of a fixed quantity of low-level

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[1] a. Counsel of record for all parties received notice at least 10 days prior to the due date of the *amicus curiae's* intention to file this brief. The parties have consented to the filing of this brief.

b. No counsel for a party authored this brief in whole or in part, and no counsel or party made a monetary contribution intended to fund the preparation or submission of this brief. No person other than *amicus curiae*, its members, or its counsel made a monetary contribution to its preparation or submission.

radioactive waste generated within the Rocky Mountain Compact region for disposal at a Northwest Compact regional facility in Washington State. The three Rocky Mountain Compact states rely on each other and the member states of the Northwest Compact to ensure that obligations under the respective compacts are met. This reliance is based, in part, on the assumption that the Court will enforce compact terms against states that do not satisfy their obligations to the compact system. If the Supreme Court rules against Plaintiffs, the viability of the Rocky Mountain Compact and the low-level radioactive waste compact system as a whole will be called into question.

B. Northwest Interstate Compact Committee On Low-Level Waste Management.

The Northwest Interstate Compact on Low-Level Waste Management ("Northwest Compact") is an interstate compact that comprises the member states of Alaska, Hawaii, Idaho, Montana, Oregon, Utah, Washington, and Wyoming. The Northwest Compact was approved by Congress pursuant to the Omnibus Consent Act. The Northwest Interstate Compact Committee on Low-Level Waste Management ("Northwest Compact Committee") comprises governor-appointed representatives from each of its member states and it administers the Northwest Compact. In 1985, one of the three operating commercial low-level radioactive waste disposal facilities in the United States was located in the Northwest Compact region on the Hanford Reservation near Richland, Washington ("Richland Facility").

To this day, the Northwest Compact Committee provides for the disposal of low-level radioactive waste generated within its member states at the Richland Facility. The Northwest Compact Committee also has cooperated with other compacts and states unaffiliated with a compact to provide a means for the safe disposal of low-level radioactive waste generated outside the compact region. In 1992, the Northwest Compact Committee entered into an agreement with the Rocky Mountain Board that allows the disposal of a certain amount of low-level radioactive waste generated in the states of Colorado, New Mexico, and Nevada. Furthermore, pursuant to Article V of the Northwest Compact statute, the Northwest Compact Committee adopted an arrangement that allows for the disposal of low-level radioactive waste generated within the states of the remaining compacts and unaffiliated states at a commercial low-level radioactive waste disposal facility located in Clive, Utah.

Because two commercial low-level radioactive waste disposal facilities are located within the Northwest Compact region (the Richland Facility and the facility in Clive, Utah), the Northwest Compact Committee has a vital interest in the continued success of the compact system. The low-level radioactive waste compact system, which has operated successfully for the past twenty-four years, provides an incentive for the states to share responsibility for the safe management and disposal of low-level radioactive waste.

C. Central Interstate Low-Level Radioactive Waste Commission.

The Central Interstate Low-Level Radioactive Waste Compact ("Central Interstate Compact") is an

interstate compact created by legislation enacted by the initial member states of Arkansas, Kansas, Louisiana, Nebraska and Oklahoma. The Central Interstate Compact was approved by Congress pursuant to the Omnibus Consent Act. The State of Nebraska withdrew from the Central Interstate Compact effective August 28, 2004. The Central Interstate Low-Level Radioactive Waste Commission ("Central Interstate Commission") comprises representatives from each of its member states and it administers the Central Interstate Compact.

Nebraska was designated as the first host state for the Central Interstate Compact in 1987. From 1987 through 1998, the Central Interstate Commission attempted to site, develop, and license a regional low-level radioactive waste disposal facility in Nebraska. In December, 1998, Nebraska denied the license application for the proposed regional facility. After protracted litigation, Nebraska was found to have denied the license application in bad faith and was ordered to pay in excess of $151 million in damages to the Central Interstate Commission. *Entergy Arkansas, Inc. v. Nebraska*, 358 F.3d 528 (8th Cir. 2004.)

D. Midwest Interstate Low-Level Radioactive Waste Commission.

The Midwest Interstate Low-Level Radioactive Waste Management Compact ("Midwest Interstate Compact") is an interstate compact that comprises the member states of Indiana, Iowa, Minnesota, Missouri, Ohio, and Wisconsin. The Midwest Interstate Compact was approved by Congress pursuant to the Omnibus Consent Act. The Midwest Interstate Low-Level Radioactive Waste Commission ("Midwest

Interstate Commission") comprises governor-appointed representatives from each of its member states and it administers the Midwest Interstate Compact.

Since its inception, the Midwest Interstate Commission has been responsible for determining the course of action pursued by the member states to discharge their obligations under the Low-Level Radioactive Waste Policy Act and the Low-Level Radioactive Waste Policy Amendments Act of 1985. In order to discharge its responsibilities, the Midwest Interstate Commission believes it is imperative that the obligations undertaken by each member state be fulfilled, and that its member states and the Commission can rely on this Court to enforce such obligations.

STATEMENT OF THE CASE

Compact Amici adopt the Statement of Case stated by Plaintiffs State of Alabama, State of Florida, State of Tennessee, Commonwealth of Virginia, and the Southeast Interstate Low-Level Radioactive Waste Management Commission.

SUMMARY OF THE ARGUMENT

Like other waste streams generated in the United States, low-level radioactive waste is an inevitable byproduct of our everyday life, and because of its volume and potential health and environmental risks, poses a serious disposal problem. According to the Nuclear Regulatory Commission, low-level radioactive waste includes waste typically consisting of contaminated protective shoe covers and clothing, wiping rags, mops, filters, reactor water treatment residues, equipment and tools, luminous dials,

medical tubes, swabs, injection needles, syringes, and laboratory animal carcasses and tissues. The radioactivity can range from just above background levels found in nature to much higher levels in certain cases, such as parts from inside the reactor vessel of a nuclear power plant. U.S. Nuclear Regulatory Commission *Backgrounder on Radioactive Waste* (April 12, 2007), available *at* http://www.nrc.gov/reading-rm/doc-collections/fact-sheets/radwaste.html.

The low-level radioactive waste compact system represents a unique allocation of responsibility for low-level radioactive waste disposal among compacting states and the federal government, whereby low-level radioactive waste disposal is addressed on a regional basis pursuant to agreements among sovereign states ratified by Congress. Congressional ratification transforms compacts into federal law and triggers the so-called compact exclusionary authority, i.e. the express authority in compacts to exclude waste generated outside of their compact region, a power otherwise unavailable to states because of limitations imposed by the Commerce Clause of the United States Constitution. In the absence of Congressional consent, the operation of the "dormant" Commerce Clause restricts a state's ability to close its borders to waste originating in other states. *City of Philadelphia v. New Jersey*, 437 U.S. 617 (1978). In exchange for this rare grant of exclusionary authority from Congress, states within low-level radioactive waste compacts have agreed to assume responsibility to provide disposal for the low-level radioactive waste generators within their borders. The way in which each state satisfies its responsibilities is left to the terms and conditions of individual compacts as drafted and agreed to by

participating states. The integrity of the compact system and the solution to the low-level radioactive waste disposal problem hinges not only on states benefiting from the compact exclusionary authority, but also on states being held accountable for the responsibilities that they assumed by entering into the compacts in the first place.

ARGUMENT

I. THE LOW-LEVEL RADIOACTIVE WASTE COMPACT SYSTEM WAS INITIATED BY THE STATES TO ADDRESS A NATIONAL CRISIS.

As this Court has observed, "[w]e live in a world full of low level radioactive waste." *New York v. United States,* 505 U.S. 144, 149 (1992). The nuclear utility industry generates the bulk of this low-level radioactive waste through the operation, maintenance and decommissioning of nuclear power plants. Low-level radioactive waste also is generated from medical, industrial, agricultural, and research applications. Radioactive material is used in radiotherapy, radiography, smoke detectors, irradiation and sterilization of food and materials, measuring devices, and illumination of emergency exit signs. Other materials, such as protective clothing and gloves, pipes, filters and concrete, that come into contact with radioactive material are contaminated and also need to be disposed of as low-level radioactive waste. *Low-level Radioactive Waste: Status of Disposal Availability in the United States and Other Countries*: *Testimony Before the Subcomm. on Energy and Air Quality, Comm. on Energy and Commerce, House of Representatives,* 110th Cong. 2 (May 20, 2008) (statement of Gene Aloise, Director Natural Re-

sources and Environment, U.S. Government Accountability Office) ("*GAO Testimony*"), available at http://www.gao.gov/new.items/d08813t.pdf.

The low-level radioactive waste compact system, consisting of ten interstate compacts covering forty-two states, was initiated by the states to address a looming waste disposal crisis. As of 1979, only three commercial disposal sites in Nevada, Washington and South Carolina were in operation for disposal of non-federal low-level radioactive waste. Believing that their states should not shoulder the burden of waste disposal for the entire country, the states of Nevada and Washington announced plans to shut their sites permanently and the governor of South Carolina ordered a 50 percent reduction in the quantity of waste accepted at its Barnwell site. *New York,* 505 U.S. at 150.

The threat that the only commercial low-level radioactive waste disposal sites would shut down triggered state and federal discussions initiated by the states through the National Governors Association. Those discussions ultimately resulted in the enactment of the Low-Level Radioactive Waste Policy Act, Pub. L. No. 96-573, 94 Stat. 3347 (1980) ("1980 Act"). Under the 1980 Act, Congress declared that each state would be "responsible for providing for the availability of capacity either within or outside the State for the disposal of low-level radioactive waste generated within its borders" and found that such waste could be disposed of "most safely and efficiently . . . on a regional basis." 1980 Act at § 4(a). The 1980 Act also encouraged states to enter into regional compacts that, once Congressional consent was given, would have so-called exclusionary authority, beginning in 1986, to restrict the use of disposal facilities to waste generated within their member

states. 1980 Act at § 4(a)(2). The states worked through a committee of the National Governor's Association to achieve the goals of the 1980 Act. "By the end of 1983, the exclusionary authority provision had resulted in nearly forty states ratifying compacts and in the formation of seven regional compacts." Holmes Brown, National Governor's Association Center for Policy Research, *The Low-Level Waste Handbook: A User's Guide to the Low-Level Radioactive Waste Policy Amendment Act of 1985*, November 1986, ("*The Low-Level Waste Handbook*"), Amicus Brief Appendix 8a.

By 1985, there still were only three operational disposal facilities. The non-sited states threatened to block Congressional consent to compacts so that sited compact regions would not be able to exercise the exclusionary authority set forth in their compacts. The sited compact regions threatened to shut their facilities altogether if the impasse were not resolved. *See* Dan M. Berkovitz, *Waste Wars: Did Congress "Nuke" State Sovereignty in the Low-Level Radioactive Waste Policy Amendments Act of 1985?* 11 Harv. Envtl. L. Rev. 437, 443-447 (1987). The impasse was broken when the governors of South Carolina and Nevada, and the Washington State Legislature announced that they would consider accepting waste from outside their compact region for some period after January 1, 1986 if Congress would ratify their compacts. This paved the way for Congress to enact the Low-Level Radioactive Waste Policy Amendments Act of 1985, 42 U.S.C. §§ 2021b-2021j ("1985 Act") which was "primarily a resolution of the conflicts between the States that do not have disposal capacity, and the three other States that have capacity." 131 Cong. Rec. H 11,410 (daily ed. Dec. 9, 1985) (Statement of Rep. Udall).

The 1985 Act clarified state and federal responsibilities and reconfirmed that "[e]ach State shall be responsible for providing, either by itself or in cooperation with other States, for the disposal of . . . [non-federal] low-level radioactive waste generated within the State . . . ." 42 U.S.C. § 2021c(a)(1)(A). It also established a 7-year transition period during which the sited compact regions could not exercise their exclusionary authority so long as the non-sited states achieved certain milestones. 42 U.S.C. § 2021e(a)-(e). The compromise embodied in the 1985 Act, and the Omnibus Consent Act (which incorporates the language of seven interstate low-level radioactive waste compacts, including, *inter alia*, the Southeast Compact, the Rocky Mountain Compact, the Northwest Compact, the Central Interstate Compact, and the Midwest Interstate Compact) moved though Congress and was ultimately enacted as Title I and Title II, respectively, of Public Law 99-240. The integrity of this compromise between sited and non-sited states rests on states being held accountable for the responsibilities to each other that they voluntarily assumed by entering into interstate compacts.

In the case at bar, the Special Master concluded that the Southeast Compact was drafted "to maximize the participating State's ability to extricate themselves from the arrangement if they had the misfortune of being chosen as the host State." Second Report 14. This conclusion, however, is not supported by the history and structure of the low-level radioactive waste compact system or the language of the Southeast Compact itself. The compromise solution between the sited and non-sited states was completely conditioned upon the right of the sited-states, including South Carolina, to control the waste

coming into their borders. South Carolina never would have negotiated and agreed to a compact that conferred on the other states the benefit of being able to dispose their waste at Barnwell while avoiding the burdens of hosting a disposal facility. Moreover, every member state of the Southeast Compact knew and agreed that South Carolina would not continue to be the host state. The Southeast Compact clearly states that "in no event shall this [Barnwell] disposal facility serve as a regional facility beyond December 31,1992." There is no rational basis to believe that South Carolina would have agreed to a compact that was drafted to allow participating states to back out of host state responsibilities thereby placing South Carolina in the exact same position that the low-level waste compromise was intended to avoid.

The Special Master also compared the language of the Southeast Compact to other low-level radioactive waste compacts to determine whether the Plaintiffs' claims had merit. *See* Second Report 36-38. But in a system initiated by the states, rather than the federal government, such an approach is without merit. The language in each interstate compact was drafted by the participating states to embody the understanding of those states in light of their unique interests. For example, there is no question that the interests of the Southeast Compact states were completely different from those compacts without a disposal facility. How one group of states chose to hold its members to their promises has no bearing on an agreement negotiated by another group of states. The language of the individual compacts may have been approved by Congress contemporaneously, but they were drafted and enacted by state legislatures independently and considered separately by Congress over the course of several years.

II. THE PROBLEM OF LOW-LEVEL RADIOACTIVE WASTE DISPOSAL IS ON-GOING AND THE COMPACT SYSTEM IS THE ONLY SOLUTION.

A. Low-Level Radioactive Waste Disposal Is Still A Problem.

After Congress consented to interstate compacts and their attendant exclusionary powers, a national crisis was avoided because the states with disposal facilities agreed not to close those sites so long as they could prevent their states from becoming dumping grounds for low-level radioactive waste. Nevertheless, low-level radioactive waste disposal continues to be a vexing problem in the United States.

Approximately 20,000 cubic feet per year of Class B and Class C low-level radioactive waste are generated in the United States. Of this amount, about 15,000 cubic feet per year are generated by thirty-six states that currently have no access to disposal facilities. Nancy J. Zacha, *Low-Level Radioactive Waste Disposal: Are We Having a Crisis Yet?* Radwaste Solutions, May/June 2007, at 10.

Currently Class B and Class C low-level radioactive waste disposal is available at the Barnwell facility in South Carolina, operated under the Atlantic Compact, and the Richland Facility in Washington State, operated under the Northwest Compact. These two facilities, however, are available to only fourteen states. The Barnwell facility is closed to waste generated outside the Atlantic Compact states, and the Hanford site is closed to waste generated outside the eleven states comprising the Northwest and Rocky Mountain Compacts. A third facility proposed

by Waste Control Specialists ("WCS") in the Texas Compact region is in the final stages of being licensed by the State of Texas to accept Class A, B and C waste. It plans to open its disposal site in mid-2010. It is unknown at this time if it will accept waste from beyond the two Texas Compact states of Vermont and Texas.

The facility located in Clive, Utah within the Northwest Compact accepts only Class A low-level radioactive waste from all states except members of the Northwest Compact (from which it only accepts mixed low-level radioactive waste). The Rocky Mountain Compact's regional facility is licensed by the State of Colorado solely for certain types of Naturally-Occurring Low-Level Radioactive Waste materials. *See* Low-Level Radioactive Waste Forum, Vol. 15, No. 1, *Low-Level Radioactive Waste Management Activities in the States and Compacts: Summary Report*, (2008). As things now stand, low-level radioactive waste generators in the majority of states, including those within the Southeast Compact, only have access to dispose of their Class A waste at the Clive, Utah facility; their more radioactive Class B and C wastes must be stored indefinitely as there is no disposal site for this waste available.

B. Efforts To Site And Operate Radioactive Waste Facilities Face Political Hurdles Across The Nation.

With few exceptions, there is little political will behind efforts to site new low-level radioactive waste disposal facilities. The Government Accountability Office reported to a Congressional subcommittee last year that:

> "[T]he impetus to develop new disposal facilities has been dampened by many factors, including decreases in disposal volumes, disposal availability, rising costs of developing a new facility, and public and political resistance in states designated to host these facilities. The United States is a large generator of low-level radioactive waste because it has 104 nuclear power reactors and thousands of radioactive material licensees. NRC has reported that future disposal availability and the costs of disposal under the current system remains highly uncertain and waste generators need predictability and stability in the national disposal system."

GAO Testimony.

In many states, the public has expressed strong anti-radioactive waste sentiment, resulting in limitations on existing radioactive waste disposal sites. For example, in Utah, the legislature passed a law that banned the disposal of Class B and Class C low-level radioactive waste in the state. Citizens of Washington State were so concerned about their state becoming a dumping ground for waste that they voted by a margin of nearly 2 to 1 for a 2005 initiative that sought to bar the Department of Energy from bringing any more federal waste to the federal Hanford Nuclear Reservation until it cleaned up the site.[2] Similarly, there is a clause in the lease for the Richland Facility providing that the State of

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[2] The Ninth Circuit Court of Appeals concluded that the statute enacted through the passage of Initiative 297 ("I-297"), the Cleanup Priority Act ("CPA"), is preempted by federal law. *U.S. v. Manning,* 527 F.2d 828 (9th Cir. 2008).

Washington reserves the right to terminate the lease if the Northwest Compact loses its authority to exclude access to the facility for out-of-region low-level radioactive waste.

With the exception of the WCS site in the Texas Compact region, plans for new low-level radioactive waste sites have been met with resistance. For political reasons, the State of Nebraska failed to honor its obligations to site a low-level radioactive waste disposal facility. After nearly a decade of controversy between the State of Nebraska and the Central Compact, the Eighth Circuit Court of Appeals upheld the district court's finding that Nebraska had acted in bad faith. *Entergy Ark., Inc. v. Nebraska*, 358 F.3d 528, 551 (8th Cir. 2004.) In California, efforts to site a disposal facility for low-level radioactive waste generated by states in the Southwestern Compact were stymied when the United States Department of Interior refused to transfer to the State of California the site in Ward Valley that had been fully licensed by the State. *United States Ecology, Inc. v. United States Dep't of the Interior,* 231 F.3d 20 (D.C. Cir. 2000).

Over the nearly three decades since the passage of the 1980 Act, the compact system has generally provided for the disposal of the low-level radioactive waste generated within the United States. While thirty-six states currently do not have access for disposal of Class B and Class C low-level radioactive waste, it is the compact system that will facilitate solutions to this problem. The compact system allows for agreements among compacts to address disposal needs, and only through the compact system will new facilities be developed. In the current political climate, no state will license or accept a new low-level radioactive waste disposal facility without the

authority to control the waste stream because no state appears to be willing to become the dumping ground for the world's low-level radioactive waste. The delicate balance inherent in the compact system hinges on the understanding among states that compacting states will be held to their promises.

III. THE LOW-LEVEL RADIOACTIVE WASTE CRISIS CAN BE SOLVED ONLY IF MEMBER STATES ARE HELD ACCOUNTABLE TO THE COMPACTS TO WHICH THEY AGREED.

A. The States As Sovereign Entities Knowingly Assumed Binding Responsibility Under Interstate Compacts.

The states' overriding objective in proposing the original 1980 Act, negotiating the various interstate compacts, and pushing the 1985 Act and compacts through Congress, was to be able to control out-of-region low-level radioactive waste from being disposed at the facilities within their states. *The Low-Level Waste Handbook,* Amicus Brief Appendix 8a. The compact system was initiated by the states; Congress deferred to state efforts to solve the pending low-level radioactive waste disposal crisis rather than imposing a "top down" solution. But in exchange for granting compacting states the authority to exclude low-level radioactive waste generated outside their compact boundaries, Congress intended, and Congressionally-ratified compacts require, states to accept responsibility for disposal of low-level radioactive waste generated within their borders. States negotiated and entered into low-level radioactive waste compacts fully aware of this responsibility.

In any interstate compact system, states are acting as sovereigns when adopting a compact. Accordingly, compacts operate with the same effect as treaties among sovereign powers. *Rhode Island v. Massachusetts,* 37 U.S. 657, 725 (1838). When co-equal sovereign states enter into a compact, the terms of that agreement would even take precedence over conflicting state law or state constitutional provisions. *McComb v. Wambaugh,* 934 F.2d 474, 479. "It requires no elaborate argument to reject the suggestion that an agreement solemnly entered into between States by those who alone have political authority to speak for a State can be unilaterally nullified, or given final meaning by an organ of one of the contracting States." *Dyer v. Sims,* 341 U.S. 22, 28, (1951). Contrary to conclusions drawn by the Special Master, neither states' rights nor sovereignty concerns would preclude enforcement of interstate compact terms agreed to by a sovereign state.

B. States Must Be Held Accountable To Compact Requirements To Ensure That The Solution To The Crisis Will Work.

When a compact state, such as North Carolina, feels free to disregard its obligations to other compact states, the very foundation of the compact system is eroded. Any interpretation of a low-level radioactive waste compact that would allow a state to accept the benefits and none of the burdens of the compact system is contrary to the obligations imposed on states by Congress to "be responsible for providing, either by itself or in cooperation with other States, for the disposal of . . . [non-federal] low-level radioactive waste generated within the State . . . ." 42 U.S.C. § 2021c(a)(1)(A). Moreover, it is patently unfair to

those states that have shouldered the burden for providing low-level radioactive waste disposal options for their generators to allow a state in breach of compact requirements to escape scot free. States must be held accountable whenever they fail to honor their mutual obligations set forth in interstate compacts, especially where they are the essential ingredient to a state-initiated solution to the low-level waste disposal crisis.

CONCLUSION

For the foregoing reasons, this Court should adopt Plaintiffs' exceptions and order the enforcement of the sanctions order or, in the alternative, order North Carolina to pay full restitution.

Respectfully submitted,

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APPENDIX

APPENDIX A

THE LOW-LEVEL WASTE HANDBOOK: A USER'S GUIDE TO THE LOW-LEVEL RADIOACTIVE WASTE POLICY AMENDMENTS ACT OF 1985

By
Holmes Brown

November 1986

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THE NATIONAL GOVERNORS' ASSOCIATION
CENTER FOR POLICY RESEARCH

The National Governors' Association, founded in 1908, represents the governors of the fifty states and the Commonwealth of Puerto Rico and the Northern Mariana Islands, the territories of the Virgin Islands, Guam, and American Samoa. Its missions are to influence the development and implementation of national policy and to apply creative leadership to state problems.

NGA membership is organized into seven standing committees in major substantive areas: Agriculture, Criminal Justice and Public Protection, Economic Development and Technological Innovation, Energy and Environment, Human Resources, International Trade and Foreign Relations, and Transportation, Commerce and Communications. Special committees and task forces are formed in response to principal concerns of the governors.

The Center for Policy Research of the National Governors' Association serves as a vehicle for sharing knowledge of innovative programs among the states and provides technical assistance to governors. The

Center manages a variety of federal grants and foundation-funded activities and state demonstration programs in areas that include education, economic development, labor market and occupational analysis, socio-economic forecasting, health care financing alternatives, job training, and state human resource management systems.

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THE LOW-LEVEL WASTE HANDBOOK: A USER'S GUIDE TO THE LOW-LEVEL RADIOACTIVE WASTE POLICY AMENDMENTS ACT OF 1985

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PREFACE

This document was prepared for the National Governors' Association, Center for Policy Research under a grant from the United States Department of Energy. While the development of state and federal policies are described in the text of this publication, it is not intended as a substitute for a legislative history or as a basis for legal determinations.

The statements, findings, and conclusions are solely those of the author and do not necessarily reflect the views of the Department of Energy or the National Governors' Association.

Special thanks are due to all the state and regional representatives whose tireless efforts to negotiate public policy in this most difficult field are documented in these pages. Appreciation is also extended to Luisa Farrell, Linda Burnette and Linda Dove for assistance in the preparation of this report.

Financial support for this publication was provided under contract no. DE-FG07-85ID12564 with the United States Department of Energy.

HOLMES BROWN served as associate staff director for the Committee on Energy and Environment of the National Governors' Association from 1979 through 1985. During that time his responsibilities included working with states to develop policy on nuclear and toxic waste issues and promoting its adoption in federal legislation. In 1980, he provided staff assistance to the NGA Task Force on Low Level Waste. In 1984 and 1985, he acted as the convenor of the state and regional representatives who formulated state consensus on the Low-Level Radioactive Waste Policy Amendments Act of 1985. Holmes

Brown is now Director of State and Federal Programs for Afton Associates, Inc.

INTRODUCTION: THE HISTORY OF THE DEVELOPMENT AND PASSAGE OF THE LOW-LEVEL RADIOACTIVE WASTE POLICY AMENDMENTS OF 1985

In the fall of 1979, a series of packaging and transportation incidents involving low-level nuclear waste compelled the Governors of Washington, Nevada and South Carolina—the states in which active commercial waste disposal sites were located— to undertake protective measures. Two of the three sites were temporarily closed, and the State of South Carolina instituted a policy to reduce by half the volume of waste its site accepted. Although the primary motivation for these Governors was to guard their public's health and safety, they also indicated dissatisfaction with their states continuing to serve as the nation's only disposal sites.

Following these developments, several Congressional committees considered legislation calling for an immediate, federally-oriented program but later agreed to a suggestion by the three host state governors that states and other interested parties be allowed to examine the long-neglected problem and recommend an alternate solution. In December 1979, the National Governors' Association appointed an eight-member task force to review low-level waste management and formulate policy by August of 1980. The result as a forty-page report containing seventeen recommendations.* The principal findings were:

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* Low Level Waste: A Program For Action (National Governors' Association, Washington, D.C., October, 19807

- Low-level waste could be managed most efficiently, both technically and politically, at the state level.
- Each state should take responsibility for providing disposal capacity for its own commercial low level waste.
- Since far fewer than fifty sites were needed, states should consider a regional approach to managing low level waste.
- The creation of a regional waste management system could best be achieved by means of interstate compacts.
- Regions should be allowed to exclude waste generated outside their borders after a specified date.

The National Governors' Association unanimously adopted the report. In the face of. the strong endorsement of this strategy, Congress passed the Low-Level Radioactive Waste Policy Act (PL 96-573) in December of 1980. Thus, just twelve months after the problem had first gained national prominence, Congress adopted a state-endorsed, state-oriented policy to address the issue.

Following passage of the 1980 Act, states began negotiating the content and membership of regional compacts. By suggesting that these compacts include January 1, 1986 as the deadline after which regions could exclude waste from their sites waste generated outside their borders, Congress implied to the three states hosting commercial sites in 1980 that other regions would be capable of handling their own waste

within five years of passage of the Act.* Yet the date of 1986 was not chosen primarily because it represented an accurate estimate of how long it would take to develop new disposal capacity. Rather, it was intended to satisfy the impatience of the three host states to stop serving as the nation's only waste sites and to act as a forcing mechanism to induce other states to form regional compacts and construct new disposal facilities.

By the end of 1983, the exclusionary authority provision had resulted in nearly forty states ratifying compacts and in the formation of seven regional compacts. Despite this progress, however, no new sites were expected to open for at least five years.

In these circumstances, an impasse developed in Congress. Since unsited states and regions were still several years away from being able to take care of their own waste, their Senators and Representatives--who constituted a majority in Congress—refused to approve of the sited states' compacts which would have allowed the closing of their sites to out-of-region waste in January of 1986. The sited states, for their part, while they could not force their compacts through Congress, threatened to shut their sites altogether if the impasse were not resolved.

Key members of Congress had also been following state implementation of the 1980 Act. While generally encouraged by state progress in ratifying compacts, Congressional leaders also recognized the need to amend the 1980 Act. In October of 1984, House. Interior Committee Chairman Morris Udall of Arizona--who was instrumental in passing the 1980 Act-

*This exclusionary authority could be exercised, however, only after Congress had consented to a compact.

-introduced legislation modifying the original Low-Level Radioactive Waste Policy Act. The significance of Udall's action was that it signalled Congressional intent to deal with low level waste before 1986. Given the states' desire to influence any revisions of the 1980 Act, representatives of sited and unsited states, as well as officials of regional compact commissions, soon agreed to meet and begin negotiating an arrangement that would address the concerns of the various factions. In December of 1984, the National Governors' Association sponsored the first of over a dozen meetings to attempt to arrive at a state consensus on how to amend the 1980 Act. When the phrase "states and regions" is employed in the text of this document, it is referring to this negotiating group.

The sessions were designed to balance the interests of the sited states in establishing a date-certain after which they would no longer bear the burden of taking the entire nation's commercial low-level waste against the interests of unsited regions and states in obtaining adequate time to construct new capacity. In the course of the discussions, representatives of Congressional committees, federal agencies, environmental groups and industry were invited to make presentations.

While the 1985 Amendments addressed a number of issues (which are examined in considerable detail in this document), the major provisions which broke the impasse between sited and unsited states and regions were as follows:

- The three currently operating sites agreed to remain open for an additional seven years.

- In exchange, the unsited states and regions agreed to accept certain conditions to remain eligible for access during the seven-year period.
- Sited states would not have to accept waste in excess of the cumulative ceilings established for each site in the legislation.
- Generators in unsited states and regions would be subject to payment of escalating surcharges on their waste throughout the seven-year period.
- Unsited states and regions would have to meet milestones in 1986, 1988, 1990 and 1992. Failure to meet the milestones would result in the imposition of penalty surcharges and the possible denial of access after a period of six to twelve months.

With these key elements agreed to by states and regions, the Amendments Act and seven compacts proceeded laboriously through Congress. House subcommittee hearings began in early 1985 and House passage occurred on December 9. The Senate, after lengthy deliberations by the Energy and Environment Committees, adopted the Amendments Act on December 19--less than a day before Congress adjourned.

In its final version, the legislation was largely the creation of the states. Chairman Udall, in remarks preceding House passage of the bill, noted that:

> I jumped in to work with the sited Governors and a group formed under the auspices of the National Governors' Association to see if a settlement could be achieved. H.R. 1083 represents the diligent negotiating undertaken by that group. The fundamentals of their settlement are

embodied in the bill we are bringing to the floor today.

The Low-Level Radioactive Waste Policy Amendments Act represents a significant achievement for states, demonstrating that they possess not only the ability to provide innovative solutions to national problems, hut the political commitment to implement them.

SECTION-BY-SECTION ANALYSIS OF THE LOW-LEVEL RADIOACTIVE WASTE POLICY AMENDMENTS ACT OF 1985

Note: The structure of this analysis follows exactly the structure of the Low-Level Radioactive Waste Policy Amendments Act of 1985,

The section, subsection and paragraph numbers used as a guide refer to the numbers contained in Public Law 99-240, which is included as Appendix E.

SEC. 2 DEFINITIONS

Sec. 2 Despite the importance attached to the definitions of terms in the legislation and the lengthy discussions among affected parties and members of Congress which preceded their inclusion in the legislation, the committee reports contain relatively little commentary on definitions. As. the bills progressed through Congress, the number of definitions and the number of definitions addressed in the report language varied from highs of nineteen definitions and ten report commentaries in the House Interior Committee to lows of eight definitions and one report commentary in the Senate Energy Committee. By eliminating definitions already contained in the Atomic Energy Act (notably "high level waste and spent fuel"), the Public Law included fourteen definitions. Most of these are self-explanatory and received no additional clarification on the House and Senate floors. Among the definitions included in the Public Law which deserve note are the following.

Commercial Nuclear Power Reactor

Sec. 2(3) "Commercial Nuclear Power Reactor" applies only to commercial boiling water (BWR) and pressurized water reactors (PWR) and determines which reactors are eligible for allocations of disposal capacity . Gas cooled, research and university reactors—while not included in this definition and consequently not eligible for the designated allocations [See Sec. 5(a)(1) and Sec. 5(c)(1)-(4)]—are eligible for the non-utility allocation.

Compacts and the Single State Option

Sec. 2(4) "Compact" is defined as an agreement "entered into by two or more states pursuant to this Act." Since regional compacts themselves rather than

the federal consent language contain the exclusionary authority, only a compact commission may restrict the use of a "regional facility" [Sec. 2(11)] after Congress consents to its compact [Sec. 4(c)].* Moreover, a compact must involve two states. Thus, states which are not members of compacts are precluded from exercising the Congressionally authorized exclusionary authority referred to in Sec. 4(c). As the House Interior Committee Report notes:

> States acting alone are not, however, considered by this committee compacts as contemplated under H.R. 1083 or the Low-Level Radioactive Waste Policy Act of 1980.

House Interior Committee, p. 22

However, the House Interior Committee report also states:

> H.R. 1083 is not intended to be construed to affect in any way authorities those states may have under other law to operate disposal sites as they determine appropriate, except where H.R. 1083 specifically is applicable to all low-level radioactive waste disposal sites such as the requirement that emergency access be available under section 6, the requirement that governs Federal use of disposal sites under section 4(b), conditions for eligibility for access to disposal sites under section 5(d), state responsibilities under section 3 and Federal activities under sections 7, 8, 9, 10, 11, 12, and 13.

House Interior Committee, p. 22

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*The Public Law does grant the individual States of Washington, Nevada and Washington the authority to deny access to their sites under certain circumstances during the limited access period. [see Sec. 5(h) and Sec. 5(b)(2)(B).]

What Constitutes a Compact

What constitutes a "compact" may determine whether a state has met the 1986 milestone [Sec. 5(e)(1)(A)]. One way states may satisfy that milestone is to ratify "compact legislation." This could mean a) a compact to which no one else is (yet) a party; b) a compact consisting of at least two states, [as Sec. 2(4) defines compact]; or (c) a compact with as many bona-fide members as the compact itself requires for validity (the Northeast Compact, for instance, calls for three states' consent before it is operative). The legislation and accompanying report language do not provide a definitive answer. Thus, sited regions and DOE, which have authority respectively to impose penalties or to withhold rebates, must make judgements as to whether states have satisfied the compact requirements of the 1986 milestone. In discussions of milestones among state and regional representatives, the phrase "compact legislation" meant action by individual state legislatures in response to federal low-level waste legislation. It was understood that other eligible compact members might not necessarily have ratified the compact by July 1986.

Disposal

Sec. 2(7) "Disposal" is defined as the "permanent isolation" of low-level waste. This definition is significant in that it may limit the types of facilities for which rebate monies can be spent. Sec. S(d)(2)(E)(i)—Uses of Payments states that rebates may only be used for "disposal facilities". Storage and treatment facilities which are not part of a disposal facility thus may be ineligible for funding through rebates.

Sec.4(b)(1) requires the federal government to "dispose" of waste. Thus, federal options for dealing

with greater than class C wastes assigned to it for disposal may be affected by this definition. [see Sec. 4(b)(1).]

Generate

Sec. 2(8) The term "generate" in both the House Interior Committee and Energy Committee versions of H.R. 1083 is identical to the wording in the Public Law. For this reason, the extended remarks clarifying the term's meaning in the House Interior Committee report are applicable.

> Section 2(11) defines the term "generate", when used in relation to low-level radioactive waste, as meaning to produce new low-level radioactive waste. For example, low-level radioactive waste that is processed for volume reduction or other purposes would not after such processing be considered to have been newly generated by that process. Non-radioactive materials which become radioactively contaminated as a result of or in connection with such processing, such as waste handling or radiation shielding materials used in the process, would be newly generated radioactive waste. And again, packages of low-level radioactive waste put into a truck or other vehicle for shipment would not after such shipment be considered to have been generated by such shipping. Any shipping, handling or shielding materials newly contaminated in or by the process of shipping the package would, however, be considered to have been generated by the shipping of the waste.

House Interior Committee, p. 23

> Allocations are based on volumes of waste delivered for disposal at a facility by a generator, not on the volume of waste generated. Thus, if a generator through processing reduces an initially generated volume of waste from 1,000 cubic feet to 500 cubic feet, the generator need use only 500 cubic feet of allocated capacity for disposal of that waste. Materials newly contaminated with radiation as a result of such process are considered to be generated by the process and would not be allocated disposal capacity of the owner of the processed waste.

House Interior Committee, p. 29

The Senate Energy Committee, although it did not define "generate," attempted in its report to explain what the term meant.

> The term "generate" is considered self-explanatory, and is therefore not defined in section 2. For purposes of clarification, however, the term should be construed to refer to the actual creation of low-level radioactive waste as a byproduct of a process or activity that uses radioactive or special nuclear materials. Thus, the operation of a nuclear powerplant or a radiopharmaceutical manufacturing facility will generate low-level radioactive waste. However, in the case of intermediate wastes, the wastes so processed or handled would be considered the primary product—not a byproduct—of the activity, and therefore, these activities would generate low-level radioactive wastes only to the extent that certain equipment uses (sic) in the activity became contaminated as a result of contact with the low-level radioactive waste being processed.

Senate Energy Committee, p. 7

Low-Level Waste

Sec. 2(9) Policy Development. Defining the term "low-level waste" and determining its relationship to state responsibilities for disposal of low-level waste occupied an enormous amount of the time of state, federal and Congressional staff since 1983. The definition provided in the Low-Level Radioactive Waste Policy Act of 1980 (PL 96-570)--which gave NRC the latitude to revise what was considered low-level waste—combined with the ambiguities surrounding the meaning of "atomic energy defense activities of the Secretary" and "Federal research and development activities" had caused complications for states attempting to define their responsibilities during the negotiation of compact language.

Soon after the 1980 Act was passed, NRC finalized a rule raising the permissible transuranic (TRU) contamination in class C waste from 10 to 100 nanocuries.

Then, in 1983 and 1984, when the states heard that NRC, in conjunction with a rulemaking on high-level waste, might consider further raising the ceiling on TRU contamination in class C to 300 nanocuries or more, they decided that any future amendments to the Low-Level Radioactive Waste Policy Act would have to define exactly what materials and what waste streams were state responsibilities.

Not only did the states object to the open-ended nature of the definition in both the 1980 Act and the 1982 Nuclear Waste Policy Act ("low-level waste means radioactive material that the Nuclear Regulatory Commission, consistent with existing law, classifies as low-level radioactive waste"), they also objected because a number of states prohibit the

adoption of state statutes (in this case regional compacts) the meaning or effect of which (in this case the type or quantity of waste to be accepted) can he unilaterally changed by a federal agency action.

The states' objections could have been met 1) by defining low-level waste precisely and permanently and then making states responsible for all low-level waste with a few federal exceptions or 2) by allowing some latitude in the definition of low-level waste but including provisions specifying which materials and waste streams states would be obliged to accept. Both approaches were tried on the House side, with the House Interior Committee adopting a more traditional definition of "low-level waste"—permitting NRC to alter what constitutes low-level waste—but carefully delineating state duties.

Alternatively, the House Energy Committee narrowly defined low-level waste, eliminating NRC's option to redefine low-level waste in the future. Having adopted a restrictive low-level waste definition, the House Energy Committee made states responsible for all low-level waste except for the materials all parties agreed should go to the federal government—DOE, naval decommissioning and atomic weapons wastes.

Legislative Analysis. The House Interior Committee approach was eventually incorporated in the Public Law. The states did not lobby for one approach over the other, since both formulations appeared to result in their having the same responsibilities. However, from a federal perspective, the House Interior Committee approach is probably preferable because it retains NRC regulatory flexibility in dealing with the definitions of various radioactive materials and the technologies acceptable for their disposal vis-a-vis

wastes for which the federal government has responsibility.

The House Interior Committee report offers the fullest explanation of how the definition of low-level waste is intended to work.

To meet these demands, H.R. 1083 incorporates definitions as follows:

1. State compact LLW definitions will be incorporated by Congressional ratification as valid for state compact commissions' activities and for state law, and may be changed by the states, or as provided for by the commissions.

2. Definitions in Federal law and regulation govern Federal activities; for example, where any Federal agency regulates an activity, the Federal definition governs the scope and implementation of that regulatory authority.

3. The definition of LLW affecting what states are responsible for disposing of is statutorily referenced as that which the Nuclear Regulatory Commission has defined in its regulations of LLW as of December 27, 1982. Changes in the NRC regulatory definition may influence licensing requirements for a LLW disposal site, but would not change that for which states are responsible for providing disposal.

House Interior Committee, p. 17

Low-Level Waste Definition: Transuranic (TRU)

Sec. 2(9)(A) The original 1980 Act and the Nuclear Waste Policy Act of 1982 (NWPA) said that low-level waste was not high level waste, spent fuel or transuranic (TRU). The definition of low-level waste in the Public Law, by omitting any reference to TRU, the-

reby includes all greater than class C TRU as low-level waste. Since NRC has not yet determined the cutoff point between high-level waste and TRU, the Public Law potentially increases the scope of material covered by the term.

As explained later, this change does not affect the waste stream for which states are responsible. However, the federal responsibility—given the wording of Sec. 3(b)(1) (D)—now includes all greater than class C commercial TRU waste.

In contrast to the Public Law, other House and Senate committees had retained the low-level waste definition contained in the 1980 Act and the NWPA which excluded TRU from low-level waste. For example, the House Interior Committee kept the traditional definition and defined TRU as radioactive waste contaminated with concentrations of transuranic elements greater than the limit for transuranic waste established by rule by the Nuclear Regulatory Commission.

House Interior Committee, p. 3

The House Energy Committee also excluded TRU from low-level waste.

The principal reason that the Senate Environment Committee version and the Public Law included TRU wastes as low-level waste was to make some entity responsible for its disposal. Since the Public Law addresses only low-level waste, unless greater than class C TRU was defined as low-level waste, (rather than as a separate category as it had been in the 1982 NWPA) it would remain an orphan category with neither the states nor the federal government responsible for its disposal.

Sec. 3 SEC. 3 RESPONSIBILITIES FOR DISPOSAL OF LOW-LEVEL RADIOACTIVE WASTE

State Responsibilities

Sec. 3(a) Policy Development.The definition and designation of state and federal disposal responsibilities received as lengthy and intense a consideration as any provisions of the legislation. The House Interior Committee report acknowledged the need for reviewing the 1980 Act.

> A clarification of state and federal responsibilities was necessary because of ambiguities in the original Act. The 1980 law had said that states were responsible for providing for the availability of capacity either within or outside the State for the disposal of low-level radioactive waste generated within its borders except for waste generated as a result of defense activities of the Secretary or Federal research and development activities.

House Interior Committee, p. 40

While the "atomic energy defense activities of the Secretary" were defined in the Act, "federal research and development activities" were not. As compact negotiations progressed, state representatives tried to reflect the 1980 Congressional intent in the language of their compacts—but several problems emerged in the effort to precisely distinguish state and federal obligations.

First, two regions—the Northwest and the Rocky Mountain—incorporated into law NRC's then-current ceiling for TRU contamination in low-level waste. Their reason for doing so was both to place an upper

limit on the materials for which states were responsible and to cite in the compact an exact federal standard since some of their members could not, according to their own constitutions, reference a federal standard subject to change.

A second problem that compact-negotiating states faced was interpreting which, if any, federal wastes states had to dispose of. The 1980 Act indicated that states need not take wastes generated by "atomic energy defense activities of the Secretary" or "federal research and development activities." States initially were inclined to phrase their compacts so that they were under no Congressional obligation to take either of these categories of federal wastes. Discussions with Congressional staff and federal agency personnel revealed, however, that Congressional intent was to preserve the disposal patterns which existed prior to passage of the Act, and in 1980 commercial facilities took. waste generated by a number of federal agencies engaged in "research and development activities." Clearly, Congressional intent must be more accurately stated in any new legislation. As discussions of the state and federal disposal responsibilities continued in relation to the phrasing of the 1985 Amendments, several additional issues arose. These are addressed in turn under separate headings.

Legislative Analysis. In regard to state obligations, the purpose of the language eventually arrived at was simple—to reflect the intent, if not the exact effect, of the original 1980 Act. In 1980, two disposal systems—one federal, one commercial—operated in tandem, with a small amount of federal agency waste (estimated at two to five percent of the commercial total in volume) being disposed of at commercial fa-

cilities. Sec. 3(a)(1) and (2) of the Public Law attempt to reflect this division of responsibility in the law.

Class C Waste

Sec. 3(a)(1)(A) Sec. 3(a)(1)(A) refers to Part 61.55 of Title 10 of the Code of Federal Regulations as of January 26, 1983—the date the part actually went into effect. The part and date were intentionally cited in order to define precisely, and without the prospect of alteration by NRC, those materials considered low-level waste and thereby a state responsibility. (Part 61.55 clearly includes class C waste.)

Policy Development. An amendment, raised by Representative Kostmeyer in the House Interior Committee, would have delegated responsibility for all class C wastes to the federal government. The justification offered for this amendment was two-fold. First, it would make siting a state or regional facility easier by transferring to federal jurisdiction a high percentage of the total curies contained in commercial low-level waste (for many states, class C waste contained 80-95 percent of the total radioactivity). Second, some class C waste contains radionuclides which remain hazardous after the institutional care period provided for in the NRC's 10 CFR 61. By eliminating class C wastes from commercial low-level waste facilities, future inadvertent intruders into such sites would be better protected.

But Congress and many states proved ambivalent regarding the proposal to assign commercial class C waste to the federal government. Members of the House Interior Committee were reluctant to alter the principles of the original 1980 Act by transferring to the federal government's jurisdiction materials that had previously been a state obligation. And Repre-

sentative Udall, who had been instrumental in the formulation of both the 1980 Act and the 1985 Amendments, was particularly opposed to the suggested change in class C responsibility.

In addition, other states and regions raised tactical rather than technical objections to the Kostmeyer proposal. For the preceding two years, several states and NGA staff had engaged in lengthy discussions with federal agency representatives and Congressional staff regarding the responsibilities of the states and the federal government for various wastes. During these discussions, in an effort to prevent an expansion of state responsibilities beyond those of the 1980 Act, states had maintained that while the 1980 Act intended that some federal wastes go to commercial sites, the Act had limited the state obligation. Having convinced federal aid Congressional staff of the sanctity of the limitations of -the original Act, it seemed impolitic to suddenly endorse a major shift in the state/federal equation.

In light of Chairman Udall's opposition, the absence of strong endorsement by the states collectively, and the opposition of the sited states, the Kostmeyer amendment delegating responsibility for class C waste was dropped. Instead, an amendment (Sec. 13, House Interior Committee bill) requiring NRC to examine the health and safety implications of low-level waste materials whose hazardous lives exceeded the 100-year period of institutional control called for in 10 CFR 61.59 was adopted by the House Interior Committee.

Legislative Analysis. Neither the Senate Energy Committee nor the Senate Environment Committee included class C study provisions in the reported versions of their bills. However, the issue was addressed

in floor statements when the legislation was considered in the House and Senate on December 19. House and Senate sponsors of the legislation disagreed as to whether the NRC should conduct the review of class C materials as called for in the House bill.

A colloquy between Representative Markey and Representative Udall makes the House view abundantly clear.

> Mr. MARKEY. One issue which was addressed in the House bill and not included in the Senate bill concerns the question of class C waste.
>
> The House provision required the NRC to review its disposal requirements for materials whose hazardous life exceeds the period of institutional control and to increase the stringency of such requirements by rule if necessary to protect the public health and safety.
>
> The Senate contained a provision which requires the licensing of above class C waste. Given this provision, a separate provision relating to the regulation of class C waste was not necessary provided that the NRC carry out the mandate of the House provision under its existing authorities as well as its expanded authorities in the Senate bill. It is our intent that the NRC does conduct the review required in the House bill. The proper procedures for handling and disposing of class C waste is a matter of serious concern. As chairman of the Energy Conservation and Power Subcommittee, and as a manager of this legislation, I am committed to ensuring that the NRC carries out the mandate of the House provision.

Mr. Speaker, the House bill contained language, approved by both committees of jurisdiction, which instructs the NRC to undertake a review of its regulations concerning the disposal of so-called class C wastes, and if necessary to enter a formal rulemaking to ensure that such disposal standards are adequate to minimize the threat to the public health and safety which may arise in connection with materials for which the hazardous life exceeds the period of institutional control established in present regulations.

The Senate bill, to which we are largely receding, does not contain such an explicit study provision. Rather, it is my understanding that it contains language which would establish a new requirement that the NRC license any disposal facility for so-called above class C wastes, for which the Federal Government is explicitly given management responsibility for the first time.

Am I correct in saying, that our decision to recede to the Senate provision on this point, and not to insist on the class C study provision contained in the House bill, is made in the belief that such a study will be necessary in order for the NRC to execute its responsibility to provide for licensing the entire so-called orphan waste category, which it is newly responsible for under this act?

Mr. UDALL. With regard to the question the gentleman just propounded, I would say yes, the gentleman is correct.

It is my belief that the language in the act, now contained in section 3, which requires the Federal Government to assume responsibility for

disposing of all above class C wastes, and which requires that such disposal be accomplished in licensed facilities, gives the NRC all the authority necessary to accomplish the kind of review contemplated in the House language, and further, that such a review will, in my opinion, be found necessary in order for the NRC to discharge its responsibilities under section 3 of the bill now under consideration.

Congressional Record,

H 13077-8
12/19/85

Just hours later, responding to the House colloquy, Senator Simpson stated:

MR. SIMPSON. I should also clarify, Mr. President, the confusion that has arisen in the other body over the meaning and requirements of the language in this bill on wastes that are a Federal responsibility and the issue of the "class C institutional control rulemaking." The Senate rejected the proposal that the NRC be required to reopen its regulations for the purpose of considering whether the hazards associated with class C wastes exceeded the period of institutional control. The Senate reached the conclusion, and that conclusion is reflected in this bill, that the States are responsible for class A, B, and C wastes, and more importantly, that the Commission's existing regulations in 10 CFR part 61 provide an adequate regulatory framework for all class A, B, and C wastes. We do not intend, and in fact specifically reject in approving this bill, any implication that those regulations are inadequate or that they should be reconsidered. The

Federal responsibility provision in section 3 of this bill has nothing to do with class C wastes. It is limited to those waste above class C. Moreover, the study under section 3 is to be conducted by DOE, not the NRC, and has nothing to do with the wastes that are the responsibility of the States under this bill. Again, I reemphasize the concept of a "class C institutional control rulemaking" in this bill, and in passing this bill, disagree that any reconsideration need to be given by the NRC to the part 61 regulations.

Mr. McCLURE. I concur in that statement, Mr. President.

Mr. JOHNSTON. I, too, agree with that interpretation.

Mr. THURMOND. I concur in that understanding, as well, Mr. President.

Mr. McCLURE. With respect to the House provision that was rejected by the Senate with respect to an institutional rulemaking for certain categories of class C low-level radioactive wastes, I wish to remind my colleagues that the Nuclear Regulatory Commission already has the authority—and, I might add, uses this authority —to revise any of its regulations that it judges at any time to be inadequate to protect the public health and safety.

Mr. LAUTENBERG. It is my understanding that the Environment Committee came to no conclusion regarding the adequacy of the NRC's regulatory framework under 10 CFR, part 61 governing low-level radioactive waste disposal facilities.

It is also my understanding that there were remarks made in the other body this evening on this legislation suggesting that the NRC should conduct a review of its part 61 regulations. Since this provision is not included in the legislation the House passed earlier tonight, nor is it in the legislation we are now considering, I do believe we are neither requiring the NRC to conduct such a study nor suggesting that such a study is unnecessary. Is this consistent with the view of the distinguished chairman of the Environment and Public Works Committee?

Mr. STAFFORD. The distinguished Senator from New Jersey is correct. We have made no judgment as to the adequacy of these regulations. The NRC has the authority to review such regulations as it deems advisable.

Congressional Record,

S 18253
12/19/85

Given the fact that the House class C study provision was not included in the Public Law and the unanimity of the Senate sponsors, it does not appear that NRC is obliged to study the class C waste regulation under the Public Law.

Owned or Generated

3(a)(1)(B)(i) The phrase "owned or generated" occurs throughout subsections 3(a) and (b) and 4(b). In most instances, it appears unnecessary or confusing. The addition of the phrase "owned or" to the simple word "generated" in Sec. 4(b)(1)(A) was suggested by the staff of the Department of Energy to allow for those rare instances where the DOE takes

title to waste generated commercially. (The transfer to federal possession of some Three Mile Island wastes is an example.)

> The Department recommends that section 4(b)(2) of both S. 1517; as modified by Amendment 583, and S. 1578 be revised so that the word "produced" is changed to the word "owned". The key phrase would then read, " . . . disposal of low-level radioactive waste owned by the Federal Government . . . " (emphasis added). This clarification is necessary because, in rare instances, the Department has accepted title to low-level radioactive waste not produced by the Federal Government.

Senate Energy Committee, p. 25

States voiced some concern about the addition of the word "owned", fearing the wholesale transfer of commercial waste to the federal government in order to avoid various state regulations. To allay these fears, states were assured by DOE that it had in the past assumed title to only a small amount of commercial waste. This, plus the rephrasing of other portions of the federal responsibility section, satisfied state reservations. When the federal government was assigned responsibility for disposal of above class C waste, it was required to send it to an NRC-licensed facility.

A Congressional staff misunderstanding of DOE's suggestion resulted in the substitution of "owned or generated" for "generated" throughout Sec. 3(a) and (h) and 4(b) rather than just Sec. 4(b)(1)(A). The mistake was never corrected.

Naval Wastes

Sec. 3(a)(1)(3)

(ii) Policy Development. Since passage of the 1980 Act, questions had arisen regarding wastes generated by the U.S. Navy. According to the understanding referred to earlier—that the 1980 Act was intended to endorse traditional disposal practices—the wastes generated by the normal operation of navy submarines would continue to go to commercial sites. The State of Maine consistently inquired about the fate of decommissioning wastes such as submarine hulls.

Legislative Analysis. The final version of the legislation would exempt states from taking decommissioning wastes. A floor statement by Senator Mitchell clarifies this point.

> Low-level waste generated through nuclear submarine overhauls at the Kittery Naval Shipyard, which accounts for about 1,000 cubic feet of low-level waste annually, or roughly 10 percent of the State's waste, is the responsibility of Maine under current law.
>
> The transition bills passed by the House and reported by the Senate Energy Committee included language that required submarine decommissioning wastes to be sent to the Federal disposal sites.
>
> Similar language is included in this bill. That will not take all of the shipyard's low-level waste out of Maine's hands, but it will allow the State to plan on a fairly constant and consistent flow of waste.

Congressional Record,

S 18120
12/19/85

Regional Disposal Facility Obligation

Sec. 3(a)(1)(C) This subparagraph was included to assure a statutory Obligation during the limited access period for the disposal of out-of-region and unusual volume wastes in "sited compact regions" and for the acceptance by any non-federal site of emergency access wastes ordered to it by the NRC under Sec. 6.

By referencing Sections 5 and 6, this subparagraph makes clear that the NRC cannot order states to take other than materials they are responsible for under the emergency access provisions.

NARM*

Sec. 3(a)(2)(A) Policy Development. Despite the absence of references to NARM wastes in House hearings and Committee reports, it was evident by November 1985 that inclusion of "diffuse" NARM wastes as a state responsibility could severely affect the carefully negotiated volume ceilings which were an essential quid pro qua in exchange for which sited states had agreed to keep their sites open. These volume ceilings were designed to maintain the single-year site disposal totals during the 7-year limited access period as near to those of 1983 as possible. [For a fuller discussion of how these ceilings were arrived at, see "Volume Limitations", Sec.5(b) and 5(c)(1).1 Since the 1983 waste disposal figures had

*NARM stands for Naturally-occurring, Accelerator-produced Radioactive Material (see Glossary).

not included any large volumes of "diffuse" NARM, the calculations for reactor and non-utility allocations contained in the bill did not anticipate the disposal of large quantities of radium-contaminated soil during the limited access period.

An early Senate Energy Committee draft of S 1517 suggested that NARM be included as a state responsibility. At that point, state officials and Members of Congress (particularly those from the sited regions) reviewed the definition of low-level waste contained in the legislation to determine if it could be interpreted to include NARM. At the same time, states, NGA staff and Congressional representatives of sited states undertook successful efforts to remove from the House version of the Superfund reauthorization a provision that required radon-contaminated materials to be disposed at NRC-licensed facilities. In addition, efforts were undertaken by NGA staff, federal agency personnel and Congressional staff to determine the quantities of NARM that might require disposal in the future. A report by William Dornsife prepared for the Conference of State Radiation Control Program Directors catalogued "discrete" NARM state-by-state. While no index of "diffuse" NARM existed, phone conversations with states and federal agencies indicated that there were millions of cubic feet of diffuse NARM waste, principally radium-contaminated soil. Representing up to half again the total volume allocation for all three sites during the 7-year limited access period, "diffuse" NARM waste —though generally low in activity—constituted too large a volume of materials to be acceptable under the ceilings established in the legislation. As a result, key chairmen and relevant Congressional committees clarified or modified their legislation to limit or eliminate NARM as a mandatory state responsibility.

Legislative Analysis. The issue of NARM had not been addressed earlier since the Atomic Energy Act had not given NRC jurisdiction over NARM and thus NARM could not be defined as low-level waste. The Senate Energy Committee originally proposed that states be responsible for all NARM wastes with concentrations below 100 nanocuries per gram. When the volumes of existing NARM wastes became known, particularly the millions of cubic feet of radium-contaminated soil, the Energy Committee revised the State Responsibility section of the legislation to reduce the volumes for which states had responsibility. In the final Senate Energy version of the legislation, states were required to accept NARM that a) was below 100-nanocuries per gram and b) was generated after passage of the 198S Act. (Since most of the industries which produced diffuse NARM no longer exist, under the Senate Energy Committee's version of the bill, states would have been obliged to accept a very small volume of diffuse NARM.)

The state responsibility for NARM was made clear by this explanatory passage from the Senate Energy Committee report.

> . . . (3) radioactive wastes referred to as Naturally-occurring and Accelerator-produced Radioactive Material (NARM) wastes generated from commercial processes of accelerator research activities after the date of enactment of S. 1517. The definition of low-level radioactive waste thus includes all NARM waste produced in manufacturing, research, and other activities after enactment of the Act, but excludes NARM waste produced during manufacturing activities associated with radium production and utilization industries, the phosphate industry, or other

> activities that took place prior to the bill's enactment.

Senate Energy Committee, p. 6

The Senate Energy Committee went on to assign all high activity NARM and NARM generated prior to passage of the Act to the federal government.

> Also assigned to the Federal Government under section 3(b) of this Act are all other wastes not explicitly listed as a State responsibility, including any wastes whose disposal has never previously been addressed in Federal law. The principal categories of wastes that would thus be assigned to the Federal Government for the first time under this Act are commercially-produced transuranic waste and NARM waste that are above class C in radiation level.

Senate Energy Committee, p. 8

The Public Law did not include the provisions of S 1517, the Senate Energy bill, but instead drew very heavily on the House-passed bill, restricting state responsibilities to low-level waste defined as A, B or C waste in 10 CFR 61.55 in effect on January 26, 1983. Since part 61.55 did not define NARM as low-level waste, NARM was not a state obligation. (It should be remembered that part 61.55 was generally available to members of Congress and their staff since it was included as Appendix XIII of the Senate Energy Committee Report).

Representative Udall, in interpreting the lan-guage which was eventually included in the public law, made it clear that states did not have to take any NARM wastes.

> . . . a State cannot be required to provide for disposal of NARM waste under this act, NARM [naturally occurring or accelerator produced] radium waste is not low-level radioactive waste for purposes of this legislation. Any State may, however, provide for disposal of NARM voluntarily and subject to the provisions of any compact of which the State is a member.
>
> Congressional Record,
>
> H 11412
> 12/09/85

Although Udall was commenting on the House-passed bill, the sections relating to NARM in the Public Law are identical to those in the House-passed bill. Thus, Udall's comments are relevant.

There were no colloquies in the House or the Senate on December 19 addressing the issue of NARM. Because of the urgency of adopting legislation and the pending adjournment, Congress chose to make NARM on orphan category which states might, but were not obligated, to accept for disposal.

Above Class C NARM

All NARM waste, including high activity NARM (i.e. above 100 nanocuries per gram) remains orphan material since no NARM wastes are defined as low-level waste and the Public Law assigns responsibility only for low-level wastes.

In summary, NARM is not under NRC jurisdiction and is not defined as low-level waste. No federal legislation assigns any institution, state or federal, a responsibility for its disposal as radioactive material. Some states have laws regulating NARM, and the Environmental Protection Agency is developing reg-

ulations for NARM disposal under RCRA. Several NARM-contaminated sites have been listed as national priorities under Superfund, and states remediating these sites will have to dispose of their NARM according to EPA's Superfund regulations.

Small quantities of discrete NARM may be accepted on a case-by-case basis by an operating site.

Federal Responsibilities

Sec. 3(b)(1)(A)-(C) Congress attempted, by establishing obverse responsibilities for the states and the federal government, to diminish the number of "orphan" categories of radioactive materials—those for which no institutional obligation for disposal exists. To a large extent, Congress was successful. All commercial low-level waste except greater than class C is a state obligation. Federal class A, B, and C low-level wastes generated in the state are also a state obligation [except for those listed in subsections 3(a)(1)(B)(i)-(iii)]. Subsections 3(b)(1) (A)-(C) make the federal government specifically responsible for the "disposal" of the three categories of waste exempted from state responsibility (presumably, the definition of "disposal" in the Act precludes the federal government from storing these materials). These three categories approximate the wastes which the federal government had been disposing of in the past.

Sec. 3(b)(1)(D) In a major policy decision to extend federal responsibility over wastes for which neither the federal government nor the states had previous disposal responsibility, the Senate Committees added a section obliging the federal government to dispose of low-level radioactive wastes that exceed the class 'C' limits of 10 CFR 61.55 as of January 26,

1983. Senator Hart explained the Senate's intention in a floor Statement.

> In addition, we have clarified the responsibility of the Federal Government under this legislation. The Federal Government is responsible for the Department of Energy's low-level waste, the Navy's waste--other than operation and maintenance--or low-level waste owned or generated by the Federal Government as a result of any research, development, testing, or production of any atomic weapon.
>
> We have also clarified that the Federal Government is responsible for the disposal of low-level radioactive waste that exceeds the limits established by the Commission for class C radioactive waste, as defined by the regulations cited above. Such disposal is to be in a facility licensed by the Commission. This resolves a contentious issue of above class C waste, which the States were unwilling to be required to dispose of due to the uncertainty surrounding the type of disposal facility that might be required by the Commission for the safe disposal of such wastes. The bill also requires the Secretary of Energy to prepare a study on these wastes and investigate the proper methods of disposal by the Federal Government.
>
> Congressional Record,
>
> S 18103
> 12/19/85

Taken together, subparagraphs 3(b)(1)(A)-(D) were intended to cover all federal waste and most "orphan" waste materials. (As noted previously, high activity NAM materials—since they are not technically "low-

level waste" as defined in the Act—are not at present a federal responsibility.)

Orphan Wastes

Although the Senate did not adopt S 1517, the Senate Energy Committee report language' referring to federal responsibility is instructive as an indication of the Committee's desire to eliminate orphan categories of waste, (i.e. wastes for which there is no institutional obligation for disposal. (SE, p.8)

> Not included under State responsibilities are low-level wastes generated or owned by the Department of Energy, certain wastes generated during the decommissioning of Navy vessels, wastes from atomic weapons defense activities, and wastes subject to remedial action or disposal under the Formerly Utilized Sites Remedial Action Program. The Federal Government has responsibility for these wastes.

Senate Energy Committee, p. 8

NRC Licensing of New Federal Low Level Waste Facilities

Sec. 3(b)(2) Policy Development.In the final weeks of the legislation's consideration, the Senate Environment Committee added a provision which required that all low-level waste resulting from activities licensed by the NRC and designated a federal responsibility under subparagraph 3(b)(1)(D) must be disposed of at a facility licensed by the NRC. This provision was added at the instigation of states which had unlicensed DOE facilities currently operating within their borders. These states feared that the DOE facilities might be the future resting place for the wastes newly assigned to DOE. Requiring

DOE facilities to be licensed for new wastes was considered a deterrent against DOE selecting currently-operating DOE low-level waste sites in Washington, Nevada and South Carolina or the Waste Isolation Pilot Project (WIPP) facility in New Mexico. Since the high-level waste repositories to be constructed under the Nuclear Waste Policy Act must be licensed by NRC, potential high-level waste states objected to this provision—but not strongly enough to try to kill the bill over it.

Legislative Analysis. No mention of this subsection was made in floor debate, and a Senate Environment Committee report has not been issued. Thus several major ambiguities remain about which wastes go to licensed facilities. Does the phrase "licensed by the Nuclear Regulatory Commission" include waste-generating activities licensed by an Agreement State? Similarly, does "facility licensed by Nuclear Regulatory Commission" mean one licensed just by NRC or by an Agreement State as well?

While no definitive answer is possible at this time, it is noteworthy that elsewhere in the Act—in three instances where the NRC is mentioned and an Agreement State might play a role—the law explicitly defines the Agreement State role.

This suggests that, in the absence of specific clarification, the references to NRC in Sec. 3(b)(2) allude only to NRC not to Agreement States. In Sec. 5(e)(1)(C)(i), NRC or an Agreement State agency is considered acceptable. In Sec. 600, Agreement States are specifically precluded from exercising authority in making decisions delegated to the NRC under Sec. 6. In the Sec. 2 definition of "disposal", both an NRC and an Agreement State role are permitted. Offer federal legislation also specifically references Agree-

ment States when they are given the same authority as the NRC.

DOE Report

Sec. 3(b)(3) This paragraph requires DOE to report on how the federal government intends to deal with those wastes for which it is given disposal responsibility in subparagraph 3(b)(2)(D). While subparagraph 3(b)(3) is largely self-explanatory, several questions arise as to intent. Some background on the evolution of this paragraph may help explain the Congressional purpose.

Draft legislation introduced by Representative Udall in October 1984 called for the federal government to take orphan wastes for which neither the states or the federal government had an obligation to provide disposal. At the suggestion of DOE, this provision was changed to require the Department to report on how to deal with orphan wastes rather than take immediate responsibility for their disposal. The decision as to who would dispose of which wastes would thus be deferred until DOE had prepared its report. Although the states preferred that the federal government be given disposal responsibilities for orphan wastes in the legislation and that these wastes go to an NRC-licensed facility, the states were resigned to accepting a DOE report provision if it were comprehensive and addressed all orphan wastes such as greater than class C, TRU, NARM, and disputed FUSRAP sites.

One aspect of the proposed language troubling to the states was the instruction to DOE to investigate "federal" and "non-federal" solutions. Even though Congressional staff explained to state representatives that this phrase was intended to mean that DOE

could examine private industry and voluntary state disposal of orphan wastes, the states became more committed than ever to rigidly defining in the statute which wastes states had to take. The state view was that a strict definition of state responsibilities would avoid states subsequently having to take greater than class C waste or other orphan materials—no matter what the DOE report recommended. (States did not object to being allowed to voluntarily accept these materials.)

Legislative Analysis. In the final version of the legislation, Congress, having decided that the federal government would be responsible for disposal of certain additional materials, required DOE to prepare a report to be submitted within twelve months detailing the volumes of waste involved, available options, costs, recommendations and how the beneficiaries of the waste generating activities can be made to bear the reasonable costs. No further explanation was offered as to the Congressional intent regarding the report.

Sec. 3(b)(3)(B) Non-federal Options

The only explanatory reference to 'non-federal options' occurs in the Senate Energy Committee Report. The language reads,

> The report would include the Secretary's recommendations for disposal of these wastes, which might include such options as disposal at existing federal or commercial sites, or disposal at new facilities specifically dedicated to this purpose.

Senate Energy Committee, p. 8

Congress seems to intend that DOE investigate commercial and state facility options, not just existing or new federal facilities. This view is reinforced by reading Sec. 3(a)(2)(B), which permits —but does not require—states to accept the greater than class C wastes assigned to the federal government. If a state or region were to accept greater than class C waste, it would appear that the federal obligation for disposing of that waste would be satisfied.

The Senate Energy Committee report suggests another option—the establishment of commercial sites outside the framework of the compacts, specifically for greater than class C waste.

While a number of "non-federal" options are theoretically possible, the DOE report should probably recommend federal actions based not only on what is possible but what is probable. Given states' past sensitivities regarding greater than class C waste, it is unlikely that states will voluntarily accept greater than class C wastes.

Sec. 3(b)(3)(C) DOE Actions

None of the Committee reports or the colloquies on the legislation explain what actions must be described in the DOE report. Presumably, DOE is to examine the volume and types of wastes and the options available and then recommend the actions the federal government must take to ensure safe disposal.

Questions have been raised as to whether Congress intended DOE to describe both administrative actions such as those required by NEPA and NRC, and technical actions such as site and technology selection. Again, the answer is not provided in any of the committee reports. The history of this subparagraph

suggests, however, that descriptions of both types of actions is necessary.

In the House versions of the legislation, DOE was simply supposed to examine the issue and offer suggestions. As the bill progressed through the Senate, however, the federal government was given disposal responsibility for greater than class C wastes. Then, these wastes were required to be disposed of in an NRC-licensed facility. Thus, although the report had a number of new factors to deal with, the legislative language describing the DOE report was not substantially altered nor was clarifying language included in the Senate report. It is likely that Congress expects some description of the regulatory as well as technical actions DOE plans to take.

Sec. 3(b)(3)(E) Beneficiaries Payment

No clarification of this subparagraph was provided in any House or Senate Committee report or on the floor of either body. "Beneficiaries" could mean those who profit from the commercial enterprises producing the greater than class C waste (utilities or laboratories) or the secondary beneficiaries (such as electrical consumers or medical patients who enjoy the advantages of the product) -- or both.

Sec. 3(b)(4) Federal or DOE Disposal

This subparagraph raises a number of questions. The most significant is whether Congress intended DOE to fulfill the federal government's obligation to dispose of waste under Sec. 3(b)(1).

Interpretation of this subparagraph is complicated by provisions added to the legislation late in the session. No committee report has explained how these later provisions might influence the choice of which

federal agency should satisfy federal disposal responsibilities. Therefore, a recounting of the development of Sec. 3(b) will help explain the confusion—but will not clarify Congressional intent.

Policy Development. The confusion created by this subparagraph can be traced back to the 1980 Act which gave states the responsibility for disposing of low-level wastes, with the exception of those generated by "federal research and development" and "atomic energy defense activities of the Secretary." However, the 1980 Act did not specifically assign any disposal obligation to the federal government—DOE or otherwise. Sec. 3(b) of the 1985 Act was intended to correct that omission.

When the House committees adopted their version of Sec. 3(b), assigning disposal responsibility for federal wastes, they used the phrase "The Federal Government shall be responsible for ensuring the safe disposal of—". They then named three categories of waste which the Department of Energy currently disposes of or has the responsibility to dispose of.

It is unclear why the House committees chose to use the term "Federal Government" in Sec. 3(b) rather than "Department of Energy". One could argue that the House Committees chose the term "Federal Government" simply because, when dividing up responsibilities it is customary to view "states" and the "federal government" (rather than "DOE") as equivalent authorities. On the other hand, the term may have been purposefully chosen because the Committees did not intend for DOE to assume responsibility for the disposal of all wastes which might be subsequently assigned to the federal government as a result of the DOE report.

The House bills, rather than assigning the federal government any new disposal obligations, required DOE to study a broad range of orphan wastes such as FUSRAP, for which other federal agencies like NRC or EPA might have some obligation. Presumably, this report would catalogue the orphan wastes and suggest which federal or non-federal agencies should dispose of them. To avoid dictating the conclusions of the report, the House may have used the term "Federal Government."

While the Senate bills and the Public Law also use the term "Federal Government" in assigning responsibility for disposing of certain wastes [Sec. 3(b)(1)], they significantly altered the federal role by assigning disposal of greater than class C waste to the federal government and narrowing the scope of the report to include only these wastes.

The Senate Energy Committee probably anticipated that DOE would dispose of the new wastes for which the federal government was given responsibility. This suspicion is supported by the ninety-day review provision which says the Secretary can not dispose of any of the waste for which DOE is newly responsible until ninety days after submission of the DOE report to Congress. Ninety days would give Congress adequate time to register objections, if any, to the DOE recommendations. Because the Senate Energy Committee bill did not require that federal facilities taking the new wastes be NRC licensed, under their version federal facilities could have begun taking some wastes after the ninety-day period had elapsed.

The addition of Sec. 3(b)(2), which requires that any waste assigned to the federal governments must go to an NRC-licensed facility, complicates the

federal role and the DOE report, as well as delaying because of the NRC role the date on which the federal government could satisfy its obligation to provide disposal.

Legislative Analysis. The Public Law, nonetheless, retained Sec. 3Cb)(4), prohibiting the Secretary from disposing of new wastes until ninety days after the report is submitted to Congress. This suggests, as did the Senate Energy Committee report, that DOE is expected to be the agency which satisfies the federal obligation. Because of the addition of the licensing requirement for greater than class C waste assigned to the federal government, it is inconceivable that Congress was presuming that DOE would be ready to dispose of greater than class C wastes three months after the DOE report was submitted. This leaves the questions of when the federal government must dispose of wastes and who is responsible in the interim unanswered since the federal government is not given a date by which it must dispose of greater than class C waste.

SEC. 4 REGIONAL COMPACTS FOR DISPOSAL OF LOW-LEVEL RADIOACTIVE WASTE

Regional Approach/Single State Option

Sec. 4(a) This section reaffirms the 1980 Act's regional approach to the establishment of new low-level waste disposal facilities. Since passage of the 1980 Act, however, Sec. 4 had been the focus of questions regarding the exercise of exclusionary authority by compacts and the role of individual states in siting disposal facilities. In 1985 the House Interior Committee explained how the new legislation was intended to affect unaffiliated states.

> H.R. 1083 is not intended to be construed to affect in any way authorities those states may have under other law to operate disposal sites as they determine appropriate, except where H.R. 1083 specifically is applicable to all low-level radioactive waste disposal sites such as the requirement that emergency access be available under section 6, the requirement that governs Federal use of disposal sites under section 4(b), conditions for eligibility for access to disposal sites under section 5(d), state responsibilities under section 3 and Federal activities under sections 7, 8, 9, 10, 11, 12 and 13.

House Interior Committee, p. 22

When the legislation was before the House of Representatives on December 9, Representative Moorhead interpreted Sec. 4 in the following fashion:

> The substitute also addresses several of the weaknesses that I believe flawed the energy and commerce version of H.R. 1083—flaws that would probably have resulted in Congress having to revisit this matter in a few short years.
>
> H.R. 1083, as reported by the Energy and Commerce Committee, failed to include language reconfirming Federal policy on the disposal of low-level radioactive waste. The substitute includes language from the interior bill that explicitly reiterates that the disposal of this waste can be most safely and efficiently managed on a regional basis.

Congressional Record,

H 11415

12/09/85

On the Senate side, Senator Bentsen of Texas remarked:

To my knowledge, Texas is the one State that has clearly decided not to enter into the compact process in developing a low-level waste disposal facility, as the State indicated in joint hearings before the Environment and Public Works Committee and the Energy and Natural Resources Committee. The State chose to follow the course for several reasons, primarily among them is that the volume of expected waste would be large enough to justify a disposal site for Texas. Most other States have not chosen that route, but I am pleased that this legislation does not preclude the "go it alone" option Texas has endorsed.

Congressional Record,

S 18106
12/19/85

During consideration by the House Energy Committee's Subcommittee on Energy Conservation and Power, a staff-written version of H.R. 1083 was adopted which permitted individual states to exercise exclusionary authority. This provision was removed, after considerable effort by various states and regions and the National Governors' Association, in a unanimous vote by the full House Energy Committee. The vote occurred on a package of state-supported changes, one of which deleted a single state's ability to exercise the exclusionary authority of the 1980 Act. (Discussion between states and members of Congress emphasized that the vote to delete was not intended to affect a single state's ability to utilize existing case law in its effort to keep other states from using its site.)

Reinforcing the view that Congressionally-sanctioned exclusionary authority is only available to

compacts, the Senate Energy Committee report reads:

> Section 4(a) restates the policy of the Federal Government that was established in the original Low-Level Radioactive Waste Policy Act of 1980, that the State responsibilities for disposal of low-level radioactive waste are best managed, in-terms of both safety and efficiency, on a regional basis. The exclusionary rights provided in the bill to regional compacts ratified by Congress fur-nish. a strong incentive for managing the waste on a regional basis.

Senate Energy Committee, pp. 8-9

Scope of Interstate Compacts

Sec. 4(a)(2) The wording of this subsection implies that the construction of "disposal" facilities is the only purpose for which compacts may be established. However, for several reasons, this section may not be definitive in determining the scope of compact authority.

First, Constitutionally, states do not need a Congressional invitation to submit compacts for Congressional approval nor can Congress limit a priori the scope of state-negotiated compacts submitted to it. States are free to conclude compacts on any topic and then seek Congressional approval. If Congress wishes to limit the scope of compacts, it may do so by not approving a compact, by deleting specific provisions, or by adopting conditional consent language.

Second, the prevailing language which governs the scope of low-level waste compacts is that of the compacts themselves. While Sec. 4(a)(2) is an invitation to states to submit compacts to establish new low-

level radioactive waste disposal facilities, regions have in fact negotiated low-level waste compacts with considerably broader responsibilities including import and export control, as well as management of storage, treatment and disposal facilities. Since these compacts have been adopted by Congress and are federal law, it would appear that the explicit authorities contained in the compacts which are not forbidden or conditioned by the consent language override any implied limitations of this subsection.

Questions of the range and authority of compacts are complex and unresolved. A full discussion of the legal issues involved is beyond the scope of this paper.

Federal Authority to Pay Taxes

Sec. 4(b)(1)(B) This subparagraph is self-explanatory. It was included from the first drafts of the bill to allow the federal government to pay the same fees and taxes as commercial generators if federal waste is sent to a regional or unaffiliated state facility. In discussions with state officials in 1983, DOE lawyers indicated that without this paragraph, state efforts to assess certain fees and surcharges on federal waste would be considered unconstitutional state taxation of the federal government.

It should be noted that federal waste, going to regional or non-federal sites in unaffiliated states, is subject (in addition to normal fees and taxes) to the same surcharges, penalty surcharges, and denial of access as commercial waste.

(Since this subparagraph refers only to disposal, it is unclear whether the federal government could be compelled to pay taxes, fees, etc. if it chose to utilize a regional storage or treatment facility.)

Compact Authority and Federal Law

Sec. 4(b)(3) Policy Development. The relationship between existing federal authority and that of compacts has been a matter of intense discussion dating from the first hearings held on specific low-level waste compacts in 1983. At that time, Nuclear Regulatory Commission representatives contended that the 1980 Act invited states to submit compacts to provide for the establishment of new disposal capacity. NRC suggested that Congress carefully review compacts which appeared to grant compact commissions management rather than just disposal responsibilities.

In these early discussions, states countered that compacts had to provide the compact commissions with sufficient authority to actually deliver a site. To adopt a compact which merely assumed the obligation of providing for disposal (and thereby perhaps incur legal liability for not delivering a site*) seemed to the states to invite trouble.

The establishment of new low-level waste disposal capacity was acknowledged to be a major technical, fiscal and political challenge. To guarantee the creation of new facilities in an economic and timely

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*It should be noted that the original Low-Level Waste Policy Act was simply 1) a declaration of federal policy that states were obliged individually to provide for the availability of disposal capacity for low-level waste generated within their borders and 2) an invitation for states to submit to Congress compacts which dealt with low-level waste. These compacts were supposed to contain a provision permitting Congressional review every five years and could contain a provision authorizing exclusion of extra-regional waste after January 1, 1986. No dates for compliance and no penalties for failure to submit a compact or for failure to provide a site were specified in the 1980 Act.

fashion necessitated the arrogation of considerable powers to the regional commissions including, in most cases, management of low level waste storage, treatment and disposal and control over the import and export of waste.

The Low-Level Waste Radioactive Policy Act of 1980 was successful in that states did respond to the Congressional declaration of policy and by the end of 1985 nearly 40 states had adopted compact legislation.

The discussion of the scope of compact authority—the so-called "disposal" vs. "management" issue—continued up to the time of adoption of the Public Law and the seven regional compacts that passed simultaneously. In no case did Congress alter the compact language as submitted or delete provisions even though all compacts contained what might be termed management authority. Rather, Congress accepted the compacts as submitted and adopted consent language which approved the compacts so long as they complied with the conditions of the "Low-Level Radioactive Waste Policy Amendments Act of 1985." Thus, the implied limitations of the original Act are probably not relevant. Questions of state and federal authority will instead revolve around the specific provisions contained in Sec. 4(b)(3) of the Public Law, which say that states and compact commissions are not granted any new authority:

> "(A) to regulate the packaging, generation, treatment, storage, disposal, or transportation of low-level radioactive waste in a manner incompatible with the regulations of the Nuclear Regulatory Commission or inconsistent with the regulations of the Department of Transportation;

"(B) to regulate health, safety, or environmental hazards from source material, byproduct material, or special nuclear material;

"(C) to inspect the facilities of licensees of the Nuclear Regulatory Commission;

"(D) to inspect security areas or operations at the site of the generation of any low-level radioactive waste by the Federal Government, or to inspect classified information related to such areas or operations; or

Sec. 4(b)(3)

If the compact commissions are not found to violate the above restrictions, presumably Sec. 4(b)(5)—"State Authority Preserved"—would permit any other management actions of the commission.

Federal Authority

Sec. 4(b)(4) This section, the wording of which closely parallels the House Interior Committee version of the legislation, seeks to preserve federal authority in general. The House Interior Committee report explains Congressional intent in some detail.

Section 4(b) makes clear that interstate compacts for low-level radioactive waste disposal neither supersede nor affect in any way the authorities, activities and responsibilities of the Federal government. While states may have authorities under their own laws or under other Federal law to conduct certain regulatory activities, nothing in this act may be construed to confer any new authority on states or compact regions which could impact or conflict with Federal authorities. Federal use of any low-level waste disposal facility established by a state or compact would,

> however, be subject to all applicable conditions imposed on non-Federal users of the facility.

House Interior Committee, p. 26

The House Energy Committee was more explicitly stated the limitations which Section 4(b) was intended to place on compact authority.

> Subsection (b) states that Federal waste which is disposed of at commercial sites will be subject to the same conditions, regulations, requirements, fees, taxes and surcharges as non-Federal waste. Federal waste which is disposed of at Federal sites shall not be subject to any compact or actions taken under a compact.
>
> Subsection (b) also provides that nothing in this Act confers any new authority on a compact commission or State to (1) regulate the packaging or transportation of waste in a manner incompatible with the regulations of the NRC or the Department of Transportation, (2) to regulate health, safety or environmental hazards from source material, byproduct material, or special nuclear material; (3) to inspect the facilities of licensees of the NRC; (4) to inspect security areas or operations of the Federal Government which produce low-level radioactive waste or (5) to require indemnification beyond the provisions of the Federal Tort Claims Act or the Price-Anderson Act. The subsection also makes clear that nothing in either this Act, or any compact may diminish or impair the jurisdiction of any Federal agency or limit the applicability of any Federal law. Thus, any language in a compact which might have such effect would be rendered ineffective.

House Energy Committee, p. 29

The final version of the bill expanded the scope of protection of federal laws and regulations to include all federal authority, not just NRC and DOT jurisdiction. In addition, a phrase referring to judicial review was added to override a provision in the Northeast compact which specifies the venue of cases involving that compact and how to interpret the federal court's failure to act within a designated period. Rather than change the compact itself, the Senate Environment Committee added this provision to the consent language.

Sec. 4(b)(5) State Authority Preserved

This subsection contains a simple declaration preserving state authority. The House Interior Committee report, commenting on another subparagraph, explained how state and Constitutional authority are related.

> Section 4(c) prescribes the manner in which authorities of compacts established for purposes under this act can take effect.
>
> Section 4(c)(1) clarifies that compacts formed by states have authority under the laws of those states to conduct any activities which are not in conflict with the Constitution or Federal law. States are prohibited by the Constitution from taking actions which interfere with the conduct of interstate commerce, among which would be restricting the movement of low-level radioactive waste into or out of the state or compact region. Activities authorized by the states under state law to be carried out by the compact organizations which do not conflict with Federal law or the Consitution do not depend on Congressional ratification of the compact for their authority.

> This section therefore simply clarifies that the date of Congressional ratification of a compact, or the absence thereof, does not affect the date on which a compact may under other law have become authorized to conduct certain activities which do not require ratification.

House Interior Committee, p. 26

For further discussion of state and federal authorities, see the preceding discussion of Sec. 4(b)(4).

SEC. 5 AVAILABILITY OF DISPOSAL CAPACITY

Interpretation of 'make available'

Sec. 5(a)(1) This subsection specifies that each of the three sited states—Washington, South Carolina and Nevada—must "make disposal capacity available" to pressurized and boiling water reactors in the volumes designated in subsection 5(c). This availability is subject to the conditions contained in the remaining subsections (b)-(g) of Sec. 5.

Policy Development. The term "make available" was subject to considerable discussion during the development of the legislation and was included in both House versions of the bill. Unsited states were adamant that the three sited regions be placed under some sort of obligation to provide capacity during the limited access period, even though the three states technically do not actually operate the sites. When the Senate Energy Committee eliminated the "make available" obligation and stated simply that sited states "may limit" the amount of waste they take to the agreed on ceiling, unsited regions insisted on the restoration of the original language. The states and regions viewed the 1985 Amendments as a package of commitments made among themselves, and the

unsited states did not want to commit to milestones and penalties if sited regions and states were not also obligated in some way.

Legislative Analysis. Since some question existed as to what it meant for a state which did not own or operate a disposal facility (which category included all three sited states) to "make disposal capacity available", Committee reports sought to define the obligation of sited states or, in the case of the Senate Energy Committee, to change the wording to more accurately reflect the authority and obligation of states.

The House Interior Committee report, commenting on the language eventually used in the Public Law, stated that "make available" means:

> Such availability is subject to the authorities of the states and compact commissions to safely and efficiently operate the disposal facilities,
>
> * * *
>
> Availability is expected to be provided by states and compacts in which the disposal facilities are located taking no action to restrict access to the sites for generators in compliance with such conditions and with the requirements of this act.

House Interior Committee, p. 27

The House Energy Committee recognized that, in fact, the disposal of low-level waste is a commercial transaction involving generators and private disposal site operators—a transaction which states regulate but do not participate in directly. Further, the House Energy Committee report emphasizes that states may not take actions that interfere with the availability of capacity.

> Subsection (a) requires the three sited States—Nevada, South Carolina and Washington—to provide limited access to their disposal facilities for a period of seven years, from January 1, 1986 to December 31, 1992. The three States shall be allowing for such limited access by not taking actions which would restrict access under the terms of their compacts.

House Energy Committee, p. 30

The Senate Energy Committee, in an effort to more accurately reflect the state role in the commercial low level-waste business, simply established ceilings below which the sited states could not restrict the disposal of waste in their borders. While the Senate Energy Committee description was perhaps more realistic, it did not place a positive burden on the sited states to "make available" capacity. Pressure from unsited regions led to the restoration of the original House wording in the Senate Environment Committee.

Senator Strom Thurmond sought a final explanation of the phrase "make available" when the Amendments were before the Senate for final passage on December 19. The following exchange occurred between Senators Simpson and Thurmond.

> Mr. THURMOND. Is it the understanding of the chairman that the phrase "shall make disposal capacity available" as used in section 5(a)(1) and (2) means only that, other than as provided in other parts of section 5 the States cannot take actions intended to interfere with the disposal of the volumes of waste stated in section 5(b). Further, the phrase does not mean that the States must act affirmatively to provide for disposal of

waste generated within their borders or elsewhere. Nor does it preempt the enforcement of otherwise valid State laws and regulations, undertaken for some other purpose, that incidentally restrict access—for example, clean air and water laws, packaging and inspection requirements, tax laws, et cetera.

Mr. SIMPSON. Yes. That is exactly the meaning of that phrase as used in this legislation.

Congressional Record,

S 18252
12/19/85

Sec. 5(a)(2) Non-Utility Allocation

While Sec. 5(a)(1) provides for a specified disposal allocation for reactors (the origins and rationale of that allocation will be discussed in relation to Sec. 5(c)), Sec. 5(a)(2) simply guarantees non-utility generators access to sited regions during the seven-year limited access period. This access is subject to the same conditions as utility waste—including the cumulative volume limitations for the seven-year period specified in subsection (b).

The House Interior Committee report defined non-utility generators thus:

> Specifically, these generators include but are not limited to other kinds of nuclear power reactors, such as high temperature gas-cooled reactors; hospitals, research facilities, and other industrial and institutional sources of low-level radioactive waste.

House Interior Committee, p. 28

There are two reasons why non-utility generators were not given a seven-year quota. First, in contrast to reactors—where annual generation figures were a) recorded for past years, b) relatively constant and predictable, and c) devisable into two identifiable categories—non-utility generators run the gamut from major industrial enterprizes to small businesses and hospitals. There seemed to be no way to devise an equitable quota which would reflect past individual generation rates or generation rates of comparable operations. (For utilities, it is possible to predict with some accuracy the number of new plants coming on line and devise the annual per reactor quotas accordingly. No similar data for predicting growth in the non-utility sector exist.)

Second, in the absence of annual quotas and volume reduction figures for the non-utility sector, a wholesale guarantee by sited states to accept all non-utility waste ran the risk of exceeding the seven-year caps—if non-utility waste volumes increased significantly.

While failure to provide guaranteed access for all non-utility waste presents the risk that non-utility waste might be excluded at some point during the limited access period, several factors suggest this problem will not arise:

- Waste generation by the non-utility sector has been decreasing and is not expected to increase. If it should do so, Sec. 5(c)(4), Transferability, was altered so that excess reactor capacity made available by utilities could be purchased by non-utility generators as well as reactors.

- In addition, non-utility generators which are denied access because limited access period volume limits have been exceeded can always appeal to NRC for emergency access. (see Sec. 6)
- Lastly, sited states could voluntarily accept volumes above the seven-year site ceilings. As the House Interior Committee observed:

> Should the quantity of waste requiring disposal under this subparagraph exceed the limitations, the states in which the operating sites are located consistent with any applicable requirements of their respective compacts voluntarily provide more capacity.

House Interior Committee, p. 28

[For full discussion of reactor quotas, see Sec. 5 (c), Commercial Nuclear Power Reactor Allocations]

Sited Region Disposal Priority

Sec. 5(a)(3) Under this provision, waste generated in a sited region is given priority access to that region's disposal site during the limited access period. The provision was added by the Senate Energy Committee in the closing weeks of the session to accommodate concerns of Southeastern utilities that the Barnwell site might sign long-term contracts with out-of-region utilities and thereby force Southeastern utilities to incur the additional expense of shipping waste to Beatty, Nevada or Hanford, Washington. (This fear had been voiced previously by utilities and had been dismissed by states, regions and Congressional committee staff as a highly unlikely event.) Unsited regions had opposed previous efforts to allow priority access to in-region waste because the Southeast had customarily generated volumes of waste

approximately equal to the annual quota cited in the 1985 Act. In succeeding years, the Southeast could, by accepting its own waste first, effectively shut out the rest of the country. This provision was, however, not objectionable enough that unsited regions threatened to hold up final passage.

Allocation Method

Sec. 5(a)(3)(13) This subsection is intended to prevent any of the three operating sites from taking a disproportionate amount of waste during the limited access period and closing because it had prematurely reached its cumulative seven-year ceiling.

Policy Development. The system eventually adopted in the legislation was designed to be simple and to leave to site operators and generators as many of the allocation decisions as possible. The initial allocation proposal adopted by the House Interior Committee [Sec. 5(a)(3)] had provided that the three sited states themselves would assign waste generators to various facilities.

> Section 5(a)(3) provides a procedure for the management of the use of the operating disposal facilities by the states in which they are located. States may assign generators to specific disposal facilities in order to balance the types of waste disposed of at each facility. The states are required to establish an agreement making these assignments, in consultation with the states and compacts and subject to the provisions of their respective compacts as required in section 5(a)(4).

House Interior Committee, p. 28

For generators and some unsited regions, this system raised the Spector of a 3-state cabal. In addition, sited regions themselves wished to avoid the burden of having to make decisions as to where thousands of generators' wastes should be assigned. The reservations of all interested parties regarding the 3-state allocation system led to the adoption of the ten percent increment arrangement proposed by the Senate Energy Committee.

Legislative Analysis. The Senate Energy Committee report explains how this system works.

> Also listed in this section are specific annual disposal figures for each of the three sites. The purpose of the annual figures is to trigger a mechanism that will ensure that each facility accepts waste at an approximately balanced rate, thus preventing any one particular disposal site from reaching its seven-year capacity limit well in advance of the remaining two facilities.
>
> The calendar-year volume figures are intended to operate as follows: upon reaching its annual limitation, that particular disposal facility could temporarily cease accepting additional wastes until the other two disposal facilities have reached their annual limitations, at which time all three facilities would accept further wastes, in successive increments of 10 percent each, during the remaining period of that calendar year. It is anticipated that the additional 10 percent increments may be required during the first years of the interim-access period, but subsequently, as various volume-reduction technologies are adopted by waste generators, annual waste volumes accepted at the three disposal facilities are not expected to reach these calendar-year

limitations. Paragraph (5) allows the State to grant first-priority access to generators within that compact region.

Senate Energy Committee, p. 10

Sec. 5(a)(3)(C) This paragraph states that cumulative volume limitations of subsection 5(b) cannot be exceeded as a result of the incremental increases called for in Sec. 5(a)(3). The volume limitations on Sec. 5(b)(1),(2), (3) and (6) are absolute and apply categorically, not just to particular paragraphs.

No Obligation If Operations Cease

Sec. 5(a)(4) Sited states sought this provision to free themselves from having to supply disposal capacity even if their facilities closed before January 1, 1993. While Congress accepted the premise that it would be unfair (and probably technically impossible) to require sited states to provide capacity if their sites closed, Congress did not want to encourage the three operating sites to close for political or frivolous reasons. As the House Interior Committee report commented:

Section 5(a)(7) makes clear that no facility or state required to provide access to disposal facilities under subsection (b) is required by this section to provide such access if the facility ceases operation. Nothing in this section is intended, however, to provide any authority or any cause for any state, compact region or operator to cease operations of a disposal facility.

House Interior Committee, pp. 28-9

The Senate Energy Committee report echoed this sentiment:

> If, however, adisposal facility ceases operation or is forced to close due to an environmental or regulatory problem, that State would no longer be required to accept waste in accordance with this Section. However, it is the Committee's intent that nothing in this Act shall provide to State or compact regions any new authority to shut down disposal-facility operations.

Senate Energy Committee, p. 10

When the legislation was brought before the House, South Carolina Representative Butler Derrick emphasized the right of a site to close during the limited access period. On December 9, he engaged in the following colloquy with Representatives Udall and Markey.

> Mr. Derrick. Mr. Chairman, under the terms of the Southeast Interstate Low-Level Waste Compact, the commercial disposal facility at Barnwell, SC, is scheduled to close by December 31, 1992. Is it your understanding that that closure date is preserved by this legislation?
>
> Mr. UDALL. The answer is "Yes." It is my understanding that the Barnwell facility will be closed by December 31, 1992, and that nothing in this legislation could be construed to prevent its closure on that date.
>
> Mr. MARKEY. Mr. Speaker. Will the gentleman yield?
>
> Mr. DERRICK. I yield to the gentleman from Massachusetts.
>
> Mr. MARKEY. I thank the gentleman for yielding.

Mr. Speaker, the Committee on Energy and Commerce, understanding is the same as that of the Committee on Interior and Insular Affairs.

Congressional Record,

H 114113
12/09/85

Volume Ceilings for Operating Sites

Sec. 5(b) This subsection establishes the annual and cumulative limits on the volumes of low-level waste which the three operating sites are required to accept through December 31, 1992. Such ceilings were sought by the sited regions as a major quid pro quo for remaining open during the limited access period.

PolicyDevelopment. The legislation initially proposed by Representative Udall in October 1984 had required that beginning in 1986 sited regions need accept only sixty percent of the volume of waste accepted in 1983. Objections from nuclear utilities, members of Congress, unsited regions and non-utility generators resulted in a rethinking of the way of reducing the volume of wastes sited regions had to take.

The factors to be considered included:

- utilities were generating sixty-five percent of the commercial waste in 1983,
- an additional twenty to thirty nuclear reactors were scheduled to come on line during the limited access period,
- immediate ceilings of the quantities which sited regions had to take would require on-site storage, resulting in utilities investing in

expensive storage facilities of temporary use rather than in volume reduction equipment which would be useful for the limited access period and beyond, and

- non-utility generators had accounted for approximately the same volume of the nation's waste for several years and their share was expected to remain constant.

Legislative Analysis. To meet these objections, interested parties negotiated the volume limitations of Sec. 5(b) and the accompanying conditions off, (c) through (g). A cumulative limited access period total was established, derived by multiplying by seven the volume of waste each site took in 1983 [except for Beatty, Nevada, see Sec. 5(b)(3) for explanation].

Emphasizing the importance of the volume ceilings, committee reports and key members of Congress repeatedly emphasized that the site specific numerical limits were absolute. The House Interior Committee report stated:

> Section 5(b) limits the amount of disposal capacity for low-level radioactive waste that can be required to be disposed of at the three operating sites between January 1, 1986 and December 31, 1992. The total amounts for each site are based on average annual volumes indicated in the section.

House Interior Committee, p. 29

The House Energy Committee makes the same point:

> Subsection (b) sets aggregate disposal capacities which each of the three existing sites are required to provide during the seven-year period: Barnwell, South Carolina—8.4 million cubic feet;

> Richland, Washington—9.8 million cubic feet; and Beatty, Nevada—1.4 million cubic feet. The three sites may accept any amount in excess of the aggregate disposal capacities, but they may not limit access to a level below such capacities.

House Energy Committee, p. 30

In remarks to the House on December 19, Representative Markey acknowledged the absolute nature of the Sec. 5(b) ceilings but emphasized that what remains of the seven-year total after the utility allocation is subtracted must be made available to nonutility generators.

> In the House bill a clear statement was made that utilities are entitled to 11.9 million cubic feet and nonutility generators are entitled to 7.7 million. Under the Senate bill only mention is made as to the 11.9 million cubic feet allocated to the utilities. It is our understanding that nonutilities are entitled to 7.7 million cubic feet under this bill, that is, the remaining capacity under. section 5(b). In addition, the section of this bill which authorizes the sited States to limit the acceptance of low-level radioactive waste to a total amount over the 7-year period requires those State to accept at the very least the aggregate amounts listed in section 5(b).

Congressional Record,

H 13077
12/19/85

Commercial Nuclear Power Reactor Allocations

Sec. 5(c)(1) This subparagraph establishes the exact allocations to be made available to commercial

nuclear power reactors during the four-year period and the three-year licensing period.

Policy Development Early drafts of the proposed limited access period legislation stated that sited regions, beginning in 1986, need accept only sixty percent of the waste they took in 1983; and the limited access would extend for only four years. It was implied that the entire burden of reducing the nation's waste volume by forty percent would fall on the unsited regions.

Generators and unsited regions objected to: an immediate reduction in volume; the volume reduction burden being placed exclusively on unsited generators; and a four-year limited access period. Utilities also pointed out that since thirty or more large, new reactors were scheduled to come on-line during the next decade, limiting the quantity of waste sited regions had to take to sixty percent of the 1983 total represented far more than a forty percent reduction during the limited access period. Utilities indicated that immediate on-site storage was not possible at all plants and that investment in storage facilities was not the best long-term use of monies available for waste management. They testified that a target of a ten percent volume reduction per year was acceptable.

This target figure offered by the utilities ostensibly met the forty percent reduction proposed in the original legislation—although over a four-year period. However, it covered only currently operating reactors. Thus, counting waste from new reactors, sited regions would actually end up taking more waste on an annual average than they did during 1983.

In response, the sited regions agreed to a seven-year limited access period (to allow sufficient time for new facilities to be sited, constructed and licensed) with the provision that during that period no site [except Beatty, see Sec. 5(b)] would have to accept a cumulative total in excess of seven times the waste volume it took in 1983. The sited regions, taking the new reactors into account, proposed a formula where the unsited regions' reactors had to reduce their waste by 10%, 25%, 35% and 45% of their 1983 totals during the first four years of the transition period and then maintain the 45% reduction figure for the remaining three-year licensing period. Sited region reactors would have to annually reduce their volumes only enough to maintain the cumulative transition period total under seven times the 1983 total.

Two factors led to the altering of this revised proposal of the sited regions. First, the unsited regions objected saying that their reactors were having to reduce their waste by an average of 30 percent over the first four years while sited regions' reactors only had to reduce theirs by an average of three percent. In addition, a number of utilities insisted that above and beyond the quotas assigned to each reactor, there should be a mandatory but unlimited set-aside—not included under the 11.9 million cubic foot utility total—for unusual volumes of waste generated by reactors requiring steam generator or pipe replacements. Industry representatives indicated that the total additional volume would not be significant. However, NRC reported that during the transition period over twenty reactors might generate unusual volumes of an unknown but considerable amount.

The sited states wished to maintain the cumulative reactor total of 11.9 million cubic feet. Therefore, they

proposed that the "unusual volume" set-aside be part of the ceiling and that it be derived by imposing a higher percentage volume reduction on sited region reactors. (Initially, the increased percentage applied against sited region reactors yielded 794,792 cubic feet, this was later rounded off to 800,000 cubic feet in the Senate. [See Sec. 5(c)(5)—Unusual Volumes])

Legislative Analysis Following extended negotiations among the sited and the unsited regions and utility representatives, the allocations contained in Subparagraph 5(c)(1) were arrived at. Although the limited access period was lengthened to seven years, the sited regions insisted that for public relations purposes the original four-year transition period be maintained and that the additional three-year extension be designated a "licensing period." Unused transition period allocations may be used later but licensing period allocations may not be utilized before January 1, 1990. [see Sec. 5(c)(3).]

The basis and rationale for reactor allocations were explained in both House and Senate Committee reports. The House Interior Committee commented:

> Section 5(c) provides specific allocations of disposal capacity for utilities operating pressurized-water or boiling water nuclear power reactors for use between January 1, 1986 and December 13, 1989. The allocations discriminate between reactors based on whether they are pressurized-water or boiling water designs and based on whether they are located in states or compact regions with or without operating disposal capacity. Higher allocations are needed for plants with a boiling water design because such plants generally produce more low-level radioactive waste under normal operations than pressu-

> rized-water plants. Reactors in sited compact regions are allocated more disposal capacity because had the compacts been ratified as those generators had anticipated, without temporary access provided for out-of-region generators, no limitations on disposal capacity would have been necessary for the generators within the sited compact regions.

House Interior Committee, p. 29.

The House Energy Committee explained why volume reduction was required of all reactors.

> Since the amount of waste which each facility must accept over the extended access period is frozen at its 1983 acceptance levels, a method was needed to distribute the limited amount of capacity among generators. Increases in future waste volumes will largely be a result of the increased number of new nuclear reactors: over the seven-year access period, thirty-three nuclear reactors are scheduled to begin operation. In order to freeze the total volume of waste generated by the utility industry, it was necessary to establish allocations for nuclear reactors that reflect significant reductions. In effect, the utility industry will be compensating for all future increases in waste generation due to new reactors by reducing waste volumes from existing reactors to the allocation levels established in H.R. 1083. Over the seven-year period, utilities are granted a total of 11.9 million cubic feet in disposal capacity through allocations and the unusual volume set aside. Over the same period, non-utility generators are entitled to a total of 7.7 million cubic feet of disposal capacity, which is the difference between the aggregate amounts

> which each facility is required to accept and the 11.9 million cubic feet which the utilities are granted. Significant increases in waste generation by non-utility generators are not projected over the seven-year period.

House Energy Report, pp. 19-20

> Since thirty-three new reactors are scheduled to open over the seven-year period, each nuclear power reactor is required to achieve significant volume reductions over the seven-year period in order to freeze total utility waste volumes at their 1983 levels. Such reductions are built into the monthly allocations assigned to each reactor.

House Energy Report, pp.14-15

The Senate Energy Committee offered the most complete explanation of how the allocation formulas were arrived at:

> Section 5(d) prescribes the volume allocations assigned to commercial nuclear power reactors during the interim access period. These allocations guarantee access to specific, but limited, volumes of disposal capacity at operating facilities. Remaining capacity is reserved for non-utility generators. Nuclear power reactor volume allocations are larger for boiling-water reactors (BWR's) than for pressurized-water reactors (PWR's), because larger amounts of waste are generated in the normal course of operation of a BWR compared to a PWR. Volume allocations are smaller during the 3 years at the end of the interim access period than they are during the first 4 years to account for the reduction in volume that is expected to be realized as volume-reduction technologies are adopted. Finally,

> volume allocations are greater for those plants located within a sited region, as compared to plants located outside of the sited regions.
>
> The volume allocation figures were arrived at based on average volume-generation data provided by the Electric Power Research Institute, and assuming a definite amount of volume reduction over the 4-year and 3-year periods, respectively. The figures also take into account the startup of new nuclear power plants that are now at various stages of construction. The net effect of these volume allocation figures will be to require an average volume reduction of approximately 30 percent for all reactor types over the entire interim-access period. The volume reduction burden placed on nuclear utilities is greater than that placed on non-utility generators of low-level waste, because it is assumed that utility generators can adopt volume-reduction measures more cost-effectively than can smaller non-utility generators of low-level radioactive waste.

Senate Energy Committee Report, pp. 11-12

Both House and Senate committee reports made clear that Tennessee Valley Authority reactors were eligible for the allocations:

> Low-level radioactive waste generated by nuclear power plants owned by the Tennessee Valley Authority (TVA) are intended to be considered wastes generated by commercial nuclear power reactors. Although the TVA is a wholly owned Federal government corporation, TVA has historically sent its low-level wastes to commercial facilities for disposal, rather than to the facilities operated by the Department of Energy, and the

committee intends that this practice continue. TVA nuclear plants generate power for the general public, are licensed by the Nuclear Regulatory Commission and are entirely self supporting financially. It is appropriate that low-level wastes generated by TVA reactors be disposed of consistent with disposal of other commercially generated waste.

House Interior Committee,p. 20

Nuclear reactors owned by the Tennessee Valley Authority (TVA) are intended to be eligible for allocations under subsections (c) and (d). Although the TVA is a Federally owned corporation, TVA nuclear reactors are licensed by the Nuclear Regulatory Commission and produce power for the commercial purposes. Waste generated from TVA nuclear reactors currently are shipped to commercial facilities, and therefore, will become a State responsibility under this Act.

House Energy Committee, p. 31

In addition, non-operating or decomissioned reactors remained eligible for their allocations:

Commercial reactors which have received their full power licenses but are no longer in operation, and including reactors undergoing decommissioning, are entitled to the same allocations available to reactors which are in operation and have received their full power licenses.

House Energy Committee, p. 31

Methods of Calculation

Sec. 5(c)(2) This paragraph specifies the method of calculation of disposal capacity for each reactor. Committee reports explain how operating and new reactor's allocations are computed.

Each PWR or EWR reactor unit is allocated by Section 5 of H.R. 1083 a. specific quantity disposal capacity that [illegible] [illegible] during the limited period of continued access to the operating disposal sites. [Illegible] are higher for reactors with the regions where the operating sites are located. For reactors that were licensed to operate at [illegible] to September 1, 1984, the 11Q total amount of capacity available for the reactor for tire 1986-89 and the 1990-92 depending on the reactor type and location.

For new reactors, the bill specifics a monthly allocation based on reactor type and location, to be credited to the reactor based on months or operation.

Allocations begin being credited to reactors the sixteenth month after their receipt of a full power operating license. The approach was taken because reactor operators usually do not shill low-level waste prior to this period. Anticipated credits can be used by reactor operators prior to the sixteenth month, however: so long as the reactor is operating under a fuel power license.

An explanation of how the allocations for reactor units were determined as follows.

(1) Allocation for Reactors in Sited Regions; January 1, 1986 through December 31, 1989: EPRI average[1] for reactor type[2] X.825 (to

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[1] Electric Power Research Institute LLW generation averages for 1978-1982, averaged by committee' staff, EPRI averages taken from Identification of Radwaste Sources and Reduction Techniques, Vol, II, EPRI NP-3370, January 1984.

[2] EPRI Average for low-level waste generation for PWRs=1,245 cubic feet per month.

reduce total volume requiring disposal by 17.5%)=1,027 cf/month for PWRs, 2,300 cf/month for BWRs.

(2) Allocation for Reactors in Non-Sited regions; January 1, 1986 through December 31, 1989; EPRI average[1] for reactor type[2]X.7 (to reduce volume requiring disposal by 30%)=871 cf/month for PWRs, 1,952 cf/month for BWRs.

(3) Allocation for Reactors in Sited Regions; January 1, 1990 through December 31, 1992: EPRI average[1] for reactor type[2]X.75 (to reduce total volume requiring dispoal by 25%)=934 cf/month of PWRs, 2,091 cf/month for BWRs.

(4) Allocation for Reactors in Non-sited regions: January 1, 1990 through December 31, 1992: EPRI average[1] for reactor type[2]x.55 (to reduce total volume requiring disposal by 45%)=685 cf/month for PWRs, 1,533 of/month for BWRs.

House Interior Committee, p.18

* * *

EPRI Average for BWRs for low level waste generation=2,788 cubic feet per month.

[1] Electric Power Research Institute LLW generation averages for 1978-1982, averaged by committee staff, EPRI averages taken from Identification of Radwaste Sources and Reduction Techniques, Vol, II, EPRI NP-3370, January 1984.

[2] EPRI Average for low-level waste generation for PWRs=1,245 cubic feet per month.
EPRI Average for BWRs for low-level waste generation=2,788 cubic feet per month.

In order to provide a basis for calculating whether reactors are on schedule, delayed or ahead of schedule for purposes of subsection (g), the committee is including a list of estimated dates on which reactors will receive full power licenses which have not received such licenses as of the date of this report. These estimates are conservative; they generally assume receipt of full power authorization for reactor operation up to one year after receipt of low power authorization, recognizing difficulties that may arise in reactor licensing. Should reactors come on line at full power which were not included in the calculation base, they will have no impact on the amount of capacity available in the allocation pool under subsection (g).

The list provided for purposes of subsection (g) shall not be construed to have any effect on allocations for reactors provided under subsections (c) and (e), which will be calculated for each reactor unit based on the criteria set forth in those subsections, including the actual date on which a reactor receives its full power operating license.

Estimated dates for receipt of full power operating licenses for new reactors

Reactor	Estimated full power License granted
Shoreham	December 1985.
Millstone 3	August 1986.
Palo Verde 2	September 1986.
River Bend 1	Do
Perry 1	Do
Comanche Peak 1	October 1986.

Hope Creek 1	Do
Catawba 2	Do
Harris 1	December 1986.
Braidwood 1	January 1986.
Clinton I	Do
Watts Bar 1	January 1987.
Byron 2	March 1987.
Nine Mile Point 2	May 1987.
Seabrook 1	July 1987.
Vogtle 1	August 1087.
South Texas 1	September 1987.
Comanche Peak 2	October 1987.
Palo Verde 3	December 1987.
Beaver Valley 2	January 1988.
Braidwood 2	April 1988.
Watts Bar 2	June 1988.
Vogtle 2	December 1988
Bellefonte 1	January 1993.
South Texas 2	September 1989.
Bellefonte 2	January 1995.
Limerick 2	May 1991.

House Interior Committee, pp. 19-20

The Senate Energy Committee confirmed this interpretation:

> The total allocations assigned to nuclear power reactors are determined by taking the appropriate monthly figure obtained from the table in paragraph (1) and multiplying by the total number of months in the applicable period. For new reactors that receive their full-power operating license after September 1984, no monthly "credit" (for purposes of calculation) is given to these reactors until their 16th month of operation, primarily because waste generation during the initial months of plant operation is insignificant

compared to waste generation later on in the plant's operating life.

Senate Energy Committee, p. 12

(Prior to the Thu incident in 1979, NRC did not issue a "full power operating license", and questions have been raised as to whether these plants are eligible for the allocation. Since all plants which were operating in

September 1984 are entitled to the full volume allocation, the question of whether they received the regulatory equivalent of a "full-power operating license" in the past is irrelevant.)

Unused Allocation

Sec. 5(c)(3) This paragraph is self-explanatory. However, it does contain the important policy provisions that unused allocations cannot be used after December 31, 1992 or after a new regional or state disposal facility serving the reactor begins operation. This latter condition was added to encourage new facilities to open sooner by guaranteeing that they will receive their home state's or region's waste.. (Absent this condition, generators might continue using the currently operating out-of-region sites if their disposal rates were substantially cheaper.)

Since it is undefined and does not appear elsewhere in the Act, use of the adjective "unused", referring to allocation causes some problems regarding the second condition. For example, even if a new site opened in a region, a reactor could continue shipping to another regional facility and claim that the allocation was "used" and therefore not subject to the limits of 5(c)(3). (This interpretation clearly be at odds with the intent of the paragraph.)

Transferability of Volume Allocations

Sec. 5(c)(4) The intent of this paragraph is to allow excess utility capacity to be transferred freely among all types of generators and all states and regions. The House Interior Committee bill originally stated that "owners and operators of nuclear power reactors could trade allocations among themselves" (i.e., only among reactors). Since some uncertainty remains as to whether the non-utility sector will generate increasing volumes during the limited access period, it was decided to make excess capacity available for transfer to utility and non-utility generators alike. The House Energy Committee report states:

> Subsection (f) allows any nuclear reactor whose access has not been denied to assign any of its disposal capacity to any other generator of LLRW whose access has not been denied.

House Energy Committee, p. 32

Two wording problems—one which persisted throughout the bill and one a transcription error in the Public Law printed version—may complicate the implementation of this paragraph.

In the House Energy Committee bill and the final version printed in the Congressional Record on December 19, the transferability section states that any commercial reactor in a region which is in compliance with subsection (e) may assign its allocation to any other person (legally this could include brokers in allocation rights) in "any such State or compact region." This phrasing—"any such"—could be interpreted as restricting the assignment to generators within the same region or state as the reactor which assigns the allocation. The previously quoted House Energy Committee Report language, however, seems

to clearly state that the intent was to allow unfettered transfer among all states and regions. This is also made clear in the report of the Senate Energy Committee which contains language identical to that in the legislation as passed by the House and Senate.

> Nuclear power plants may use their allocations at any time during the applicable 4-year and 3-year periods, may carry over any unused amounts, and can transfer any unused allocations to any person who wishes to obtain such allocations, provided that the utility relinquishing its allocation and the recipient of that allocation are located in compact regions or States in compliance with the milestones of Section 5(e) at the time of the transfer.

Senate Energy Committee, p. 12.

A further complication for the legal interpretation of this provision is that the phrase "any such"—which was contained in the December 19 Congressional Record version of: the Public Law—was incorrectly transcribed as "each" in the Government Printing Office version of PL 99-240.

Other provisions of this paragraph deserve note. Allocations can be assigned in exchange for valuable consideration. Congressional staff and sited regions' lawyers indicated that this condition would permit the contractual assignment, sale or transfer for money of unneeded utility allocations. Also, affected states must be notified as to any transfers—and these transfers must also be accompanied by a waiver. These provisions were designed to keep allocation records accurate and avoid the double use of an allocation.

Unusual Volumes

Sec. 5(c)(5)(A) Since the allocations included in Sec. 5(c)(1) are based on national averages for normally operating reactors, it was deemed necessary to establish a procedure to assign capacity to those reactors which in the words of the House Interior Committee undergo "unusual repair or maintenance activities." The House Interior Committee reports notes:

> The Nuclear Regulatory Commission has indicated that up to 23 nuclear reactors may have to undergo extensive replacement of piping in their primary cooling systems, for example, and disposal of the resulting waste would be an appropriate use of this capacity.

House Interior Committee, p. 32

The House Interior Committee bill allocated 794,792 cubic feet for unusual volumes and permitted a utility-based organization to allocate the capacity.

The House Energy Committee endorsed a special set-aside similar to the Interior Committee provision, adding that reactors which do not discharge contaminated water are also eligible for the "unusual volume" allocation. It also eliminated the utility-based organization as the agency to allocate the unusual volume, substituting instead the Secretary of Energy. The House Energy Committee report explained the purpose of the unusual volume provision.

> Subsection (g) provides for 794,792 cubic feet of capacity to be set aside for nuclear utilities in case of necessary, but irregular, maintenance of safety procedures. For instance, it has been estimated by the NRC- that as many as twenty-

> three boiling-water nuclear reactors may have to replace pipes which have developed fissures over the seven-year access period. For the most part, the unusual volume was designed to provide capacity for the large volumes of waste resulting from such replacement procedures.

House Energy Committee, p. 32

The Senate Energy Committee adopted an unusual volume provision but added the word "unexpected" to the text. They did not explain what that implied.

The Senate Energy Committee report, commenting on its provision which is identical to that in the Public Law, states:

> A special set-aside within the overall utility allocation is provided under paragraph (5). This set-aside, totaling no more than 800,000 cubic feet of capacity, may be allocated by the Secretary of Energy to utilities that require extra disposal capacity during periods of unusual operating, maintenance, repair, or safety activities that cause additional volumes of low-level waste to be generated. An example of a typical activity that would produce unusual volumes of low-level waste would be the cleaning or replacement of steam-generator tubing. The Secretary of Energy decides when to assign an allocation from the unusual volume set-aside upon a petition by the operator of the nuclear plant in need.
>
> Access to disposal capacity under the allocation scheme of this subsection does not relieve any holder of an allocation from any of the regular and usual business requirements for such access that are applied to generators of low-level radioactive waste, such as payment of disposal

> fees, including surcharges, compliance with applicable regulations, and adherence to other limitations established in this Act.

Senate Energy Committee, p. 12

The Public Law provides up to 800,000 cubic feet for unusual volumes. Staff to the Environment Committee explained that this figure was affirmed by subtracting probable utility allocations over the limited access period from the cumulative seven-year utility allocation of 11.9 million cubic feet.

The wording of the Public Law allows the Secretary of Energy to make allocations if he states the reason in writing. There is no indication as to whom this written opinion must be given.

Eligibility of Contaminated Water Reactors

In defining eligibility for unusual volumes, the question arose as to whether reactors which do not release radioactive contaminated water would qualify. (The rationale offered was that since few reactors retain their contaminated water, the EPRI figures on which the reactor allocations were based did not account for this additional volume of waste. [see Sec. 5(c)(1)1). Both the House Interior Committee and the House Energy Committee reports made it clear that such reactors were eligible.

> Capacity under this subsection is required under paragraph (2)(A) to be made available as a first priority to accommodate increased waste volumes which result from operation of a reactor without discharge of radioactively contaminated water into the environment.
>
> The unusual volume amount will also be available for the increased volume capacity needs of

> reactors that do not discharge radioactively contaminated water.

House Energy Committee, p. 32

The eligibility of reactors which do not discharge contaminated water was affirmed in a floor colloquy between Senator Symms and Senator Simpson.

> Mr. SYMMS. Mr. President, section 5 of the bill includes a provision that authorizes the Secretary of Energy to allocate additional disposal capacity to commercial nuclear power reactors that experience unusual or unexpected operating, maintenance, repair or safety activities. Is it your understanding that the Secretary is authorized under this provision to make available additional disposal capacity to accommodate increased waste volumes which result from operation of a reactor without discharge of radioactively contaminated water into the environment?
>
> Mr. SIMPSON. Yes; the Senator from Idaho is correct.

Congressional Record,

S 18118
12/19/85

Seven-Year Ceiling and the 800,000 Cubic Feet

Policy Development. The determination that 800,000 cubic feet should be the allocation for "unusual volumes" was based on rough estimates. Though the volume of waste generated in the past by unusual maintenance procedures varied from 20,000 cubic feet to several hundred thousand cubic feet, forty thousand cubic feet appeared average. This figure was multiplied by the estimated number of reactors that might require these procedures during the

limited access period (i.e. 20), yielding approximately 800,000 cubic feet. Another factor in determining this figure was the desire to limit the volume reduction required of sited-region reactors [see Sec. 5(c)(1)1

Sec. 5(c)(5)(B) The intent of this subparagraph was simple: a) to limit unusual volume allocations to 800,000 cubic feet and b) to guarantee that reactor allocations under Sec. 5(c) combined with unusual volumes do not exceed 11.9 million cubic feet. By using the term allocation, however, this subparagraph conflicts with the volume limitation of Sec. 5(c)(6) and also makes it difficult for the Secretary of Energy to allocate unusual capacity until late in the limited access period.

The problem arises because Sec. 5(c)(5)(B) refers to allocation rather than volume of waste disposed. Given present waste projection figures, it is unlikely that the 11.9 million cubic figure will be exceeded even if reactors use the entire 800,000 cubic feet of unusual volume. However, volume reduction has no influence on the allocation formulas which are established in Sec. 5(c)(1). If a number of new reactors come on line earlier than scheduled, they will be granted their full allocation for whatever time remains of the limited access period. By adding together the cumulative allocation figures of operating and new reactors, the Secretary of Energy might conclude that they could theoretically exceed the 11.9 million cubic foot ceiling as the limited access period neared its conclusion. In that case, the Secretary might feel compelled to retain the entire 800,000 cubic feet of unusual volume until it was evident that the 11.9 million cubic foot limit would not be surpassed by allocating the 800,000 cubic feet of unusual volume.

While this was not the intent of the Act, especially when read in conjunction with Sec. 5(c)(b), the wording creates a legal problem for the Department of Energy.

Sec. 5(d)(1) Surcharges

This subsection establishes the surcharges which sited regions may assess unsited regions' waste during the limited access period. (Sited regions' waste shipped to another sited region facility cannot be assessed a surcharge under this provision. Since the imposition of surcharges based on whether waste is from a sited or unsited region would, without a specific Congressional authorization, normally be considered unconstitutional, Congress had to authorize this procedure.)

Policy Development. Note that while this paragraph authorizes and places monetary ceilings on the surcharges which sited regions may charge unsited regions, it does not place any limits on the fees, taxes or surcharges which sited regions may impose on all waste. Though initially unsited states and regions expressed concern on this point, they concluded that pressure from sited state's fellow compact members would keep increases in general fees, taxes and surcharges within reason.

The surcharge provision was one of the major elements in the agreement which sited regions negotiated to keep their sites open during the limited access period. One purpose of the surcharge is to generate additional revenues for the sited states—an estimated $170 million according to the Congressional Budget Office.

Legislative Analysis. The House Energy Committee explained the rationale for establishing surcharges:

> H.R. 1083 authorizes the three sites States to impose surcharges on waste accepted from outside their regions. The surcharges are designed to (1) provide incentives for unsited regions and States to develop new facilities, (2) encourage volume reduction by unsited regions and States and (3) compensate sited States for extending access.

House Energy Committee, p. 15

The Senate Energy Committee also referred to the intended effect of the surcharges:

> Section 5(c) lists the surcharges that may be imposed on out-of-region wastes being accepted for disposal at the Barnwell, Hanford or Beatty sites. The fee scheduled is graduated over the seven-year interim-access period so that the non-sited regions will feel ever-increasing pressure from their waste generators to expedite new disposal-site development. Furthermore, it is anticipated that disposal costs at new facilities will be higher than current costs, and the graduated surcharge fee is intended to parallel or exceed these new disposal costs, so that market forces will encourage new site development and usage.
>
> After 1992, the surcharge fee imposed on out-of-region wastes may be set at any amount that the State deems appropriate.

Senate Energy Committee, p. 11

Senator Mitchell noted the necessity for this provision in his floor statement of December 19.

> To encourage volume reductions by generators and as an economic incentive for other States to

develop their own sites, sited States may impose surcharges on waste accepted between 1986-92. Under current law, States are prohibited from imposing higher surcharges on out-of-State waste.

Congressional Record,

S 18119
12/19/85

Congress did not impose any conditions on the use of the surcharge income by sited regions. Congress also emphasized that the imposition of surcharges is voluntary with the amount being determined by each sited state.

Surcharges on Excess Volumes

It appears that if sited states were to accept waste in excess of the seven-year cumulative ceiling of 19.6 million cubic feet or the individual sites' seven-year totals, they could charge the surcharge. Absent a voluntary agreement, they could not charge more than the maximum surcharge. A provision in the House Energy Committee bill allowing sited states to double the surcharge for waste volumes exceeding the specified ceiling was absent from the Senate versions of the legislation and the Public Law.

Milestone Incentives: Rebate Escrow Account

Sec. 5(d)(2)(A) This subparagraph establishes an escrow account held by the Secretary of Energy into which sited regions must, on a monthly basis, deposit twenty-five percent of the surcharges they receive between 1986 and the end of 1992.

The House Energy Committee explained the reason for the rebate:

> Such a payment will provide an additional incentive for states and compact regions to meet the milestones on time. In addition, the refunds which are returned to states or compact regions will be earmarked to be used on facility development and closure, as well as, mitigation of impacts on the host state.
>
> * * *
>
> If States or compact regions meet the milestones on the milestone dates, a percentage of the surcharge will be paid to the State or the compact region where the waste originated. Such a payment will provide an additional incentive for States and compact regions to meet the milestones on time.

House Energy Committee, p. 23

While this provision was missing from the House Interior Committee version, strong advocacy of a rebate from unsited states and regions and acceptance of the concept by sited states (though they insisted the rebate not exceed twenty-five percent) assured its inclusion in the Senate Energy Committee bill and in the Public Law. Several questions are raised by the text.

Neither the Public Law nor any committee reports explain the phrase "on a monthly basis." It is thus unclear a) whether sited states can convey twenty-five percent of all the surcharges they have collected within the past thirty days to the escrow account even if the waste was disposed of some time earlier or b) whether states or site operators must collect the surcharge at the time of disposal and then transmit the rebate within thirty days of disposal. (Site

operators have often billed generators and brokers after disposal.)

While the rebate must eventually be conveyed to the Department of Energy, it is unclear is when rebates from surcharges collected after a milestone on waste disposed of prior to the milestone will be distributed by DOE.

It should also be noted that the Secretary is not given any authority or sanctions to compel timely transmission of rebates to the escrow account.

It is also not clear what is to be done with the interest collected on the escrow account.

Payment of Rebate

Sec. 5(d)(2)(B) This subparagraph authorizes the payment of rebates to unsited states or regional compact commissions if they meet the 1986, 1988,, 1990 and 1993 deadlines.

Two issues have been raised related to this subparagraph. First, because the rebate is twenty-five percent of the surcharge amount collected between specified dates, unsited states and regions are hopeful that sited states will expeditiously collect and transmit to the escrow accounts all surcharges on disposal so that the maximum rebate is available. A delay in collection could mean, some lost rebate revenue for unsited states or regions.

Early Payment of Rebates

The second issue relates to when the rebate is to be paid. On first reading, this subparagraph appears to authorize rebate payments within thirty days of the date of the respective milestone, if met. Some states and regions have argued that the condition "if the milestone described in subsection (e)(1)(A) is met"

could be interpreted to mean whenever the milestone is met, even if it precedes the date set in Sec. 5(e)(1)(A) of the Act.

While nothing in the committee reports or the Congressional Record seems to preclude that interpretation, it was not the common interpretation of this section while the Act was under consideration. The Senate Energy Committee report does say:

> All such host States would be eligible for rebates during the portion of time that their region was in compliance with the milestone requirements.

Senate Energy Committee, p. 14

This may seem to indicate states or regions, whenever they are in compliance, qualify. However, this report language refers to 'provisions that differed substantially from those included in the Public Law and may not be applicable.

Early payment of the rebate could create cash flow problems for DOE in the event that a state or region which met a milestone in advance of the actual date subsequently fell out of compliance by the actual date of the milestone. In that case, DOE is obliged to pay the forfeited rebate money to the sited states within 30 days—with no assurance that it could collect the rebates already paid out in a timely fashion, [see Sec. 5(d)(2)(F)1.

A practical argument in favor of early payment is that even though the rebates were intended to assist unsited states and regions to implement the Act, larger amounts of money will be available later rather than earlier in the process. This is because surcharges are smaller during the First four years and because the last and largest rebate—at the $40

per cubic foot rate—will be distributed after the interim access period is over. Unsited states and regions are expected to incur the bulk of their expenses during the first four years. Early payment of rebates could help alleviate compact commissions' expected cash flow problems.

Failure to Meet 1993 Milestone

Sec. 5(d)(2)(C) This subparagraph describes the disposition of waste and state responsibilities for waste after 1993. It was added to the legislation after the Senate Energy Committee had adopted its version of the bill. No report language but considerable, and sometimes contradictory, floor statements in the House and Senate refer to this provision.

Most of the controversy surrounding this subparagraph concerns the implications and constitutionally of states taking title to waste. Since state posession is most likely to occur in 1996, if at all, that topic will be dealt with last. Other issues raised by this subparagraph include the following.

State Options in 1993

Sec. 5(d)(2)(C)(i) This provision requires that each state which has not provided for disposal capacity by January 1, 1993 must take possession of waste generated in-state. If states fail to take title, penalties are prescribed. However, the next subparagraph provides an alternative to this penalty provision, saying that states may (in 1993) refuse to take title.

Sec. 5(d)(2)(C)(ii) This subparagraph initially explains how rebates are to be distributed if a state refuses to take possession of waste in 1993 or takes possession at some point between 1993 and 1996. It goes on to describe a state's obligation in 1996 if the

state has not provided for disposal capacity. (The subparagraph is somewhat disjointed in both format and content which makes explaining it somewhat difficult.)

The distribution of rebates after 1993 is based on the principle that if generators must continue to care for the waste after 1993 they should have the rebate returned to them. The rebates which were collected over the three-year period from January 1990 to December 1992 will be reimbursed proportionately to generators over the following three-year period from January 1993 to December 1995 if the state or region has not provided for disposal. If a state or compact provides for disposal prior to January 1996, the remaining unreimbursed rebate is transferred to that state or compact.

Senator Hart explained the rationale for the rebate distribution and why Congress chose 1996 rather than 1993 as the final date by which states must take possession.

> In addition, we have decided to scrutinize the situation after the end of the limited access period in 1993. Other legislation left a blank when 1993 arrived. We were concerned, however, that a state may choose to "manage" its waste by telling the waste generators that they have had to develop a means of storage for their waste. Such a policy would be unacceptable from our perspective and would leave generators with no effective recourse.
>
> In order to provide some framework for addressing this possibility, we told states that by 1993 they must take title to the waste, or the rebates to which they would have been entitled

would be returned to the generators. This appeared to be a fair method since states not accepting title would be leaving generators with some serious problems. We believe that the generators should receive some compensation for their storage costs, and thus the generators receive the rebates.

We make it clear, however, that States cannot continue to rely on other entitites to solve the low-level waste disposal problem and we require states to take title to the waste in 1996. We give the states up to 3 years after 1993 to take title because of two concerns. First, if states were forced to accept possession of the waste in 1993 and they had no disposal facility available, we could be creating, instead of eliminating, a public health and safety problem, by transferring possession of the waste to an entity that had no effective storage capacity. The utility generators, in particular, may be better equipped to handle temporary storage of this waste and would also receive the 25-percent rebate—the largest of all the rebates—that the states sacrificed by not taking title to the waste.

Second, we are concerned that the Nuclear Regulatory Commission may need more time than we have provided to license alternatives to shallow land burial, in which many state represented on the Environment and Public Works Committee have indicated an interest. We are clear in demanding the state take title to the waste, but there must be a reasonable deadline that all parties can meet so that we do not exacerbate an already difficult problem.

Congressional Record,

S 18104
12/19/85

State Obligation to Take Title to Waste in 1996

Sec. S(d)(2)(B)(ii) [Typographically the subparagraph of the Public Law page 99 Stat. 1851 should be divided in the middle, sir the sentence reading "If a state (or where applicable, compact region)" marks the beginning of the provision 1996.]

This passage requires states to take title a possession of all waste within their borders and to liable for damages for failure to do so. This provisi caused considerable discussion in both the Senate and t House. Senator Johnston, who first proposed the concept state possession in 1996, described the rationale a consequences of the provision at length.

> The substitute before us today is a compromise between the approach taken by the Committee on Energy and Natural Resources, which involves tough, enforceable milestones for State action over the next 7 years to deal with low-level radioactive waste disposal, and the approach of the Environment and Public Works Committee, which involves considerable more flexibility in the near term and a potentially very tough requirement at the end of the 7-year period that any State that has failed to provide for the disposal of its low-level radioactive waste must take title to, and assume possession of, that waste.
>
> At my suggestion, all the Senators involved agreed that this sanction would be considerably strengthened if we also made such a State liable

for the consequential damages resulting from the failure of the State to comply with these two requirements. The compromise language we are introducing today incorporates this concept, which makes a State that is unable to provide for the disposal of low-level radioactive waste generated within its borders after January 1, 1996, "liable for all damages directly or indirectly incurred by the generator or owner of the waste as a consequence of the failure of the State to take possession of the waste as soon after January 1, 1996, as the generator or owner notifies the State that the waste is available for shipment.

This language insures that the State will not be able to avoid the financial consequences of failure to provide adequately for the disposal of its low-level radioactive waste, even though it may find a way to avoid taking title or possession in a timely manner. The consequential dmages language ensures that if the State does fail to take possession for whatever reason, it will not avoid liability for the damages that result directly or indirectly from that failure. This liability begins as soon after January 1, 1996, as the waste is ready for shipment, not at some indefinite date in the future when the State actually assumes possession of the waste. In the context of this amendment, the term "damages" includes both actual and punitive damages from actions taken against a generator or owner of wastes because that State has not taken possession of the waste and the costs incurred by the generator to safely manage waste that the State fails to possess.

In my opinion, this language is essential to provide the teeth to the more flexible Environment and Public Works approach. We need this language to ensure that we are not faced in the 1990's with the same situation we face today—inaction by a few generating States and no available leverage to force action. If these States were faced with liability for the consequences of inaction today, we would not have a low-level radioactive waste crisis upon us. Those States would have long ago taken the steps necessary to deal with their low-level radioactive waste so as to avoid the very liability this language would assign to them.

The liability for consequential damages is not being imposed on the States. The States that enter into compacts accept the terms of the legislation we are enacting. By entering into compacts, States assume the risk that they may incur the penalties set forth in the act for failure to comply with its provisions. In return for assumption of this risk, these States receive the benefits of the act, chief of which is the right to exclude low-level radioactive waste not generated in the compact region from any disposal facility located within the region . . .

Mr. President, there is one provision of the bill to which I would like to make further special reference, and that is the so-called consequential damages provision. If the States do not meet the 1993 deadline, they could be responsible not only for taking title but immediate possession of the nuclear waste. If they fail to meet the 1996 deadline, they must be responsible for taking title and possession of the waste. In either case,

upon failure to do so, the State becomes liable for all damages, directly or indirectly, caused by that failure.

That means that if some generator of nuclear waste must close down, for example, by reason of the failure of the State to accept possession and title to this nuclear waste, and that generator has to go out of business, then the State is responsible for all the damages.

It is a very far-reaching, difficult, and punitive provision, but we meant it to be precisely that.

As part of our compromise, in order to have this very strong provision in 1996, we relaxed a bit the provisions for the interim dates—1988, 1990, and 1992.

Congressional Record,

S 18113
12/19/85

However, Senator Levin of Michigan expressed reservations about the 1996 title issue.

I do, however, have strong reservations about a provision which makes the State liable for all waste generated within its borders, if it is not able to dispose of all its waste by 1996. I understand the basis for this provision, which is to provide an additional incentive to States to properly dispose of their waste. However, I feel this measure is too drastic and could cause severe waste management problems for the States. I am concerned that it may be impossible for States which generate significant amounts of low-level radioactive waste to dispose of all of the waste generated within its borders by that date due to

circumstances beyond their control, such as litigation. I believe that consideration should be given to States who cannot meet that deadline if they have made every effort to meet the milestones and the process set forth in that law and flexibility should be exercised on this provision, although it is my hope no States will be unable to meet this deadline.

Mr. President, I will follow the progress of the formation of the regional compacts very closely to make sure that we have not set unreasonable milestones in the bill.

Congressional Record,

S 18120-1
12/19/85

Representative Udall echoed these sentiments when the Senate bill was sent back to the House. Commenting on the 1996 title provision, Udall said:

Most significant, we have agreed to the Senate's requirement that the States take title to low-level waste generated in their territory in 1996. We believe all States will have developed management ability by that time. Although States are also liable for damages consequential to taking title to the waste, we intend this a very narrow liability limited to situations in which State actions are directly involved.

Congressional Record,

H 13075
12/19/85

Representative Markey also registered objections to this provision.

One of the more controversial provisions in the Senate bill relates to States assuming title and liability for waste in 1996 and to require States to reimburse generators for surcharges. I have requested the Congressional Research Service to study the constitutionality of such a requirement. Their findings, in a study dated December 16, 1985, found that these provisions raise constitutional issues under the 10th and 11th amendments. I agree. I cannot recall any statute which has ever sought to impose such a liability on States. The provision may not pass a constitutional challenge and if it should, I would expect the interpretation of liabilities to be construed extremely narrowly, and not broadly as some may contend. It is upon such a narrow interpretation that I have agreed to this provision.

Because the provision comes in only 1996 or 1993, it is intended that the provision be severable from the rest of the act, should it be found unconstitutional. I further note that the provision requiring taking title is applicable to all States, not just those whose compact is conditionally consented. This fact raises further constitutional questions, raised by the Congressional Research Service, since it cannot be said that this requirement is a condition for consent.

Congressional Record,

H 13077
12/19/85

When the bill returned to the Senate for final passage, Senator Simpson offered his own interpretation of the 1996 title provision. Other Senate floor leaders concurred with Simpson's remarks.

In considering this bill, some Members raised questions about the constitutionality of the provisions contained in the Senate-passed bill, requiring States to take title and possession of low-level radioactive waste no later than January 1, 1996, if such State, or a compact region in which such State is a member, fails to provide low-level radioactive waste disposal. I should emphasize that, in my judgment, there are no constitutional defects with this approach. If, however, a State declines to take title and possession under this provision, and asserts that the provision is unconstitutional, I should point out that the failure to comply voluntarily with the requirement that title and possession be taken—one of the principal conditions of consent to any regional compact—means that the entire compact in which such State is a member will be null and void, invalid, and cannot be implemented. Thus, a State that refuses to take title and possession under this provision does so at considerable risk that the compact will be invalid as a result.

I wonder if I could ask for the assurances from my colleagues that this is their understanding of this provision?

Mr. McCLURE. I agree with that interpretation, Mr. President.

Mr. THURMOND. That is consistent with my understanding as well, Mr. President.

Mr. JOHNSTON. I, too, agree with the statement of the Senator from Wyoming.

Congressional Record,

S 18252-3
12/19/85

Retroactive Liability: Unanswered Questions

While this provision requires states which fail to provide capacity in 1996 must take title and possession of all waste within their borders, it is unclear how retroactive the liability is or how much, if any, of the waste generated between January 1, 1993 and December 31, 1995 states must take title to. Questions such as the following remain unanswered.

- Since generators receive the rebate between 1993 and 1996, if a state fails to provide capacity, does that Imply that those wastes are a generator's responsibility rather than the states?
- If generators make their own private deals to dispose of waste between 1993 and 1996, can they sue the state for damages (costs) in 1996, should no new state site be available?
- If an accident involving accumulated waste at a generator's site occurs between 1993 and 1996, can the generator sue the state in 1996?
- If a state provides a site only months before the 1996 deadline, can generators recover any costs or damages for the period beginning in 1993?
- If a small generator, like a hospital or industry, were unable to store on-site because of licensing restrictions and went out of business, could it sue the state for damages in 1996?

The questions, along with the constitutional questions raised by the CRS study requested by Representative Markey remain unresolved.

Recipients of Rebate Payments

Sec. 5(d)(2)(D) Policy Development. This subparagraph occasioned some debate among states before adoption in its final form. Some states objected to rebate money being sent directly to compact commissions rather than to the individual member states of compacts. These states. argued that given the serious nature of the decision delegated to the commissions—choosing a member state to host an unwanted facility —that each member state legislature should participate in the decision-making by appropriating the rebate money to the regional commission. In addition, this periodic legislative action would represent an affirmation of each state's commitment to. the compact.

Other states and some Congressional staff argued that if the rebate money goes to compact member states, there is no, assurance that those states' legislatures would appropriate the money for the compact commissions. Despite the next subparagraph's restrictions on the use of the monies, some observers feared that state legislatures or governors might. withhold the rebate money if they disagreed with a. compact commission's decision. States could probably not: be compelled to appropriate the rebate money.

Legislative Analysis. The rest of the subparagraph is relatively self-explanatory. However, several issues require comment. Congress chose to transmit the rebate money to commissions rather than individual member states if states were members of compacts.

DOE is required to pay rebates to unsited states and to regions which meet the milestones within thirty days. But, DOE' is not, given any authority to compel timely payment by the sited states of surcharge rebates. Delays in submission of rebates to DOE could complicate bookkeeping for DOE when it pays out rebates.

While rebates earned by states which are members of compacts are to go to their respective compact commissions, some compact commissions may be formed- months after the compact is consented to by the member states. Thus, in order to for money to be sent to the compact commission rather than to individual states, states whose commission has not yet been established may wish to set up earmarked escrow accounts to receive rebates. These funds could then be transferred to the compact commission when it is functioning. (Money sent to the individual states might otherwise be deposited in the general treasury and would be difficult to release later to the commission.)

Uses of Rebate Payments

Sec, 5(d)(2)(E)(i) The House Energy, Committee added the rebate provision directing rebates to states and regions which are in compliance with the milestones. They also added this subparagraph limiting the uses of such funds. The House Energy Committee report simply repeats the phrasing of their version of the legislation as an explanation for this limitation. No other committee report and no floor statements refer to the uses of these funds.

It is worth noting that all four limitations on the uses of rebate payments refer to disposal facilities. Given the definition of "disposal" in the law [see Sec.

2(7)], under this provision states probably cannot use rebate monies for regional storage or treatment facilities.

State or Compact Commission Expenditure Reports

Sec. 5(d)(2)(E) (ii)(I) The House Energy Committee explained that in order to:

> assure that refunds are expended for the purposes stated, subparagraph (D) requires any State or compact commission receiving refunds to submit an annual report to the Department of Energy itemizing any expenditures.

House Energy Committee, p. 35

Sec. 5(d)(2)(E) (ii)(II) The House Energy Committee added that:

> The Department of Energy shall, not later than 6 months after receiving such reports, transmit a report to Congress which summarizes all of the reports and assesses whether the State or compact commission has expended funds in accordance with the stated purposes.

House Energy Committee, p. 35

[This report is not the same as the report required of DOE in Sec. 7(b).]

Payment of Rebates to Sited States

Sec. 5(d)(2)(F) This subparagraph directs DOE to pay surcharges not otherwise rebated under the law to the collecting state within thirty days of the determination of ineligibility. If that determination is made late in the thirty-day period, DOE could have up to sixty days to return rebates to the sited states.

The House Energy Committee emphasized that the surcharges or the forfeited rebates which are collected or returned to the three sited states are not subject to the spending restrictions of this subparagraph.

> None of the surcharges collected or retained by the three States with currently operating commercial facilities are subject to these requirements.

House Energy Committee, p. 35

No Rebates on Penalty Surcharges

Sec. 5(d)(2)(G) This paragraph states that no rebates will be made on surcharges or penalty surcharges paid during a period of non-compliance. This provision is intended to prevent states or regions from gaining fiscal benefit from payments made while they were out of compliance. For a discussion of surcharges and penalty surcharges see Sec. 5(e)(2)(A)-(B).

Milestones

Sec. 5 (e) This subsection establishes milestones which unsited states and regions must meet or else face economic penalties or loss of access to existing disposal sites.

Policy Development. The milestone provision, along with the subsections on surcharges and volume ceilings, contains the major elements which unsited regions accepted in exchange for the sited states keeping the operating sites open. Lengthy negotiations between unsited and sited states/regions preceded determination of the dates and details for each milestone. General criteria used in specifying the milestones were:

- Is it a tough, but reasonable, requirement?
- Does it apply to all unsited states or regions?
- Is it easy to determine whether the goal has been met or not?

Milestones: Who Decides?

By specifying milestones that are easy to determine, states and regions hoped to minimize litigation.

In addition, unsited regions wished to avoid specifying any party, particularly the sited states, as having the absolute power to judge whether they had met the milestones. (But, because of continuing disagreement as to who should determine whether the milestones had been met, the Public Law does not specify any agency to make the judgement.)

Sited states (given their ability to impose surcharges and deny access) and DOE (given its ability to withhold rebates) are therefore the de facto judges of whether states and regions meet milestones. Because no agency or organization was identified in the law to judge compliance with milestones, little guidance for making a determination other than the description of the milestones in the law is available.

Although both the sited states (which can impose penalties) and DOE (which allocates rebates) must make judgements regarding compliance, the law does not indicate that there need be any consultations or coordination between DOE and the three states. It is possible that DOE and the three states could disagree about a state's compliance or even that the three states could disagree among themselves whether a state had met the milestone or whether to uniformly invoke the discretionary penalties. (Note that the

doubled surcharges are mandatory, but cessation of access is optional [see Sec. 5(e)(2)].)

The milestones apply only to unsited states and regions. While unsited states and regions suggested that sited regions be subject to the same timetable as others, it soon became apparent that to apply the same penalties for failure to comply would not work. Imposing penalty surcharges or denying states access to their own site while others used it were actions unpalatable to the sited states and also somewhat ludicrous. Most states eventually agreed that the sited states' long-demonstrated desire to cease serving as the nation's disposal sites was the surest incentive for them to make sure their own regions met the Act's milestones.

Sec. 5(e)(1) While the intent of this paragraph is clear, a phrase appears to suffer from a missing conjunction. The two categories which must comply with the milestones are regions which lack an operating facility and an individual state "that is not a member of a compact" and "that does not have an operating disposal facility."

1986 Milestone

Sec. 5(e)(1)(A) This subparagraph was intended by Congress to compel all states, whether members of compacts or not, to be at approximately the same stage in developing a site on July 1, 1986. Some of the ambiguities in defining "compact legislation" have been discussed previously [see Sec. 2(4)]. The House Interior Committee acknowledged that states might change their status after July 1, 1986.

> Section 5(d.)(1)(A) requires that no later than July 1, 1986 states which have not become a member of a compact either ratify legislation

making them a member of a compact, or enact legislation indicating that the states will fulfill the responsibility to provide for disposal of low-level waste under this act by developing a site for such disposal within the state. The committee is aware that a state might enact legislation indicating intent to develop a disposal site and subsequently ratify legislation making it a member of the compact. Or, a state which has ratified legislation might subsequently withdraw from that compact with the intent of developing its own site. Either of these examples is consistent with compliance with the requirement for progress under this subparagraph, so long as the state either is a member of a compact or has properly declared an intent to develop a site throughout the period. The committee is not encouraging such sequences or implying that such sequences are likely to lead a state to be in compliance with the other requirements of this section.

House Interior Committee, p. 30

1988 Milestone

Sec. 5(e)(1)(B) This milestone requires regions to name host states and to prepare plans for siting and filing a license application.

1988 Compact Obligations

Sec. 5(e)(1)(B)(i) This subparagraph raises several issues which require explanation. First, the phrase "or shall have selected the developer for such a facility and the site to be developed" was added by the House Interior Committee to allow for the site selection procedure called for in the Central States Compact. (Rather than the Commission designating a

host state, private operators will submit site-specific proposals to the Commission. The Commission, in selecting the leading proposal, will thereby designate both the host state and the future regional site. Some individual states may follow a similar procedure, with a board or commission reviewing proposals from private site developers.)

Second, this subparagraph appears to permit either the host state or the compact commission to develop the siting plan and to delegate authority to implement the plan. It would seem difficult for the compact commission to accomplish either of these tasks.

Third, the delegation of authority provision was included as an additional requirement to encourage states to take the actions necessary to implement siting plans. It was feared that simply requiring a siting plan might result in a state agency preparing such a plan but having no authority to pursue it. The authority requirement is designed to force governor's offices and/or state legislatures to provide the authority to implement siting and licensing plans.

1988 Non-member State Obligations

Sec. 5(e)(1) (B)(ii) This subparagraph places the same obligations on non-member states as the preceding one did on compacts.

1988 Siting Plan

Sec. 5(e)(1) (B)(iii) This subparagraph was added late in the session after protracted negotiations between the Senate Environment and the Senate Energy Committees. Senator Dan Evans was particularly concerned that the intermediate milestones of 1988 and 1990 were not stringent enough to guarantee new sites by 1993. [For a discussion of the 1993

milestone, see Sec. S(e)(1)(C)]. As a consequence, the siting plan requirement—which had been part of the 1988 milestone Since the early House Interior Committee versions—was made more demanding. Other than the text of the law, there are no committee report language or floor colloquies to clarify the meaning of "siting plan."

1990 Milestone

Sec. 5(e)(1)(C)(i) Policy Development. In early drafts of the legislation, submission of a license application for a new facility was the only way to satisfy the 1990 milestone.

The milestone year 1990 was chosen in order to allow NRC (or an Agreement State) the three years necessary to process a license application. Soon after discussions of milestones began, sited regions, environmentalists and some Congressional staff objected saying that requiring a license application in 1990 a) did not take into account procedural or legal delays which regions and states might encounter and b) it might compel states to select the disposal technology which could be analyzed and licensed most rapidly—even if it were not the most suitable technically or to the public. For these reasons, the second 1990 option—the governor's certification was added.

Legislative Analysis. It should be emphasized that this decision represented a major shift in the policy objectives of the Act. If a license application had remained the only action satisfying the 1990 milestone, the objective of the 1985 legislation would have been to have new sites operational in unsited regions by 1993. With the addition of the governor's option, the objective became, in the words of the House Interior Committee:

not to require states and compacts each to have demonstrated by this date they will have provided for disposal of the waste generated in the state or region but to assure the committee and the Congress that when interim access is terminated low-level waste generated within each state will not constitute an involuntary burden either on the other states or on the Federal government or any Federal agency.

House Interior Committee, p. 31

Having accepted the two-option approach, the House Interior Committee and the House Energy Committee explained in committee reports how states could satisfy the milestone and the. Committees' rationale for providing an alternative to a license application.

Section 5(d)(1)(C) requires that no later than January 1, 1990, each non-sited (sic) shall be able to meet certain criteria intended by the committee to be taken to show with reasonable certainty that the state will be capable of providing for disposal of low-level radioactive waste generated within its borders, or of providing. some alternative for management of such waste, when the period of interim access to operating disposal capacity terminates December 31, 1992. The filing of a complete license application for construction of a low-level waste disposal facility within the state or within the state's compact region would satisfy the requirement.

The governor might show that some alternate to disposal technology will be provided by the state, such as interim storage facilities, or that disposal will be provided through an arrangement with

another compact or state that has operating disposal capacity or which has provided acceptable assurance that disposal or other facilities will be available in a timely manner.

House Interior Committee, p. 31

The House Energy Committee report reads:

> The third milestone, January 1, 1990, requires that (1) a complete application be filed for a license to dispose of waste or (2) if a State has not filed a license application, that the Governor of such State shall certify that the State will provide for the storage, disposal, or management of any waste generated within the State after December 31, 1992. Since many States may be developing facilities which are alternatives to the traditional method of disposal, shallow land burial, such States may require additional time to submit an application. The ability of the Governor to meet the milestone by means of certification is therefore essential. John G. Davis, Director of the Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, testified before the Subcommittee on Energy Conservation and Power:
>
> For an alternative disposal method, the effort for development of a sufficient application will be greater due to the limited data and practical experience available for alternatives . . . Specifically, the milestones identifed for January, 1988 may not represent sufficient progress to later assure that the January 1, 1990 milestone for a complete disposal site application is met. In this two year period, the site developer would have to progress from development of a siting plan

> through implementation of that plan including identification of potential siting areas, investigation of specific alternative sites, completion of site characterization, preparation of a license application, and any public participation activities associated with these steps. Based on past experience with waste facility siting, this schedule seems extremely ambitious. Identification of specific alternative sites will require time following general screening for potential siting areas. Data on the various alternative sites would then be reviewed to determine which site or sites to characterize in detail. A minimum of one year is then required by NRC and compatible Agreement State regulations for the applicant to collect sufficient environmental data on a preferred site to complete the license application. To meet the 1990 milestone, potential siting areas would probably have to be identified no later than January 1, 1988, and specific alternative sites by July 1, 1988.

House Energy Committee, pp. 20-1.

Senator Stafford acknowledged the two-option approach during Senate consideration:

> Nonetheless, States needing such additional time would still be required by January 1, 1990, to certify that such States or regions will be able to provide for the storage, disposal, or management of waste generated within such States or regions after January 1, 1993. The sited States or regions would be able to exclude waste after January 1, 1993, but the unsited States or regions would not be penalized because they needed additional time to provide for the disposal, rather than the storage, of their own

waste. The bill therefore accommodates both the interests of the sited regions and the unsited regions.

Congressional Record,

S 18107
12/19/85

Complete Application

Sec. 5(e)(1)(C)(i) One issue in the subparagraph requires comment. In order to prevent states from submitting pro forma applications, the term "complete application" was employed. State discussions with NRC indicated that no clear model of a complete application for a low-level waste disposal license exists. For example, when applying for a reactor license an applicant usually submits what appears necessary, NRC reviews the material and then requests additional information and clarifications. The initial effort is bonafide but not always "complete."

The NRC recognized the Congressional intent of this provision and prepared guidelines on what constitutes a complete application—the draft Branch Technical Position on Standard Format and Content of License Applications for Near-Surface Disposal of Radioactive Waste (March, 1986).

Sec. 5(e)(1) (C)(ii) Governors' Certification

The first sentence of this subparagraph suffers from a poorly placed negative. The intent is clear, however. Governors of states that are members of compacts which have not filed a license application or of non-member states which have not filed a license application must provide the required written certification. This means that if a region has not submitted a license application by 1990, the governor of each

regional member state must submit the certification to NRC.

No elaboration of what constitutes an acceptable governor's certification is contained in any committee reports or in floor colloquies. Thus, a variety of options including storage, disposal or management are available to states. It is possible that states, if they had the authority, might choose to require their generators to store on-site temporarily until a state or regional disposal site was available. The 1992, 1993 and 1996 milestones were added, however, to prevent states from turning over storage or disposal obligations to their generators indefinitely. [see Sec. 5(e)(1)(F) and Sec. 5(d)(2)(C)(ii)]. While states may lack the authority to force generators to store on-site (for instance, state authority over nuclear reactors—which NRC licenses—is questionable), if states fail to provide a site, it is uncertain what recourse generators have to compel state action or sue for damages until 1996.

The principle objectives of provision (C)(ii) are to force those states whose waste authorities or compact commissions had not submitted a license application in 1990 a) to devise plans for managing their waste three years ahead of the 1993 deadline and b) to compel those same states to submit for the public record a document offering assurances that by 1993 they can handle, if not dispose of, their own waste. The existence of the governor's assurance is also designed to discourage states without sites from asking Congress for an extension of access to operating sites as the limited access period draws to a close. Should an unsited state or region ask Congress to extend the 1993 deadline, sited states can, under this provision, contend that as recently as 1990 such

states or regions had offered assurances that they could deal with their own wastes beginning in 1993.

1992 Milestone

Sec. 5(e)(1)(D) This milestone was introduced by Senator Evans in order to force states to file a license application. The Senate (and subsequently the House) agreed to include Evan's 1992 license application requirement. This provision certifies that the objective of the legislation is to bring needed disposal capacity on-line—if not by 1993, certainly before 1996.

Senator McClure emphatically made this point in the Senate debate:

I want to emphasize that the Energy Committee, in its negotiations with the Environment Committee, gave in on almost every major issue, provided that this one key—element (sic) the fourth milestone—as preserved in the final compromise. We sacrificed our bill's stiffer milestone requirements, our bill's penalty provision, our bill's incentive provision, our bill's emergency access provision, and our bill's approach to the mixed waste issue. We did this conditioned on the inclusion of this fourth milestone, without which States would be able to sail through the entire 7-year limited access period without ever having to file a disposal facility license application with the NRC.

I hate to think what might happen if this fourth milestone were deleted from the bill. If I had to wager a guess, I would predict that in 1992, we'd have large numbers of States still happily shipping their waste to South Carolina, Washington, and Nevada, all guilty of inadequate efforts to develop new disposal sites, and all coming to Congress crying for mercy and begging for more time. And I'm afraid that the

Congress, in its wisdom, would grant yet another extension of the current temporary arrangement, precisely because a time-clock was again turning into a time-bomb for the Senators representing those States that had failed to meet their commitment.

The Energy Committee's insistence on a fourth milestone will go a long way toward preventing such an unacceptable result. And, I reiterate, that fourth milestone was the basis for all our other concessions to the Environment Committee. This key provision is essential if we are to enact legislation that will solve the serious problem now confronting us. That is why I cannot accept anything less than the basic elements of the compromise agreement originally negotiated by staff on behalf of the two committees.

Congressional Record,

S 18114
12/19/85

Contracting Option

Sec. 5(e)(1)(F) This provision allows unsited states and regions to satisfy 1986, 1988, 1990 and 1992 milestone by contracting with the compact commission of regions containing a "regional disposal facility." Presently sited regions and any regions siting facilities in the future are thus eligible to be contracted with.

The Senate Energy Committee report explained the rational for this provision:

> Section 5(e)(1)(0) allows any non-sited State subject to the milestones to enter into an appropriate agreement with a compact commission for a region in which an operating disposal facility is located to provide for the disposal of the non-

sited State's low-level radioactive waste. The State in which the disposal facility is located must approve the agreement.

The appropriateness of any such agreement is a matter to be settled by the parties to the agreements themselves. The Committee assumes that sited regions will refuse to enter into any agreement that they view as detrimental to their interests. Nothing in the Act requires any party to enter into an agreement. On the other hand, one of the sited regions may be able to come to a mutually acceptable voluntary agreement with a non-sited State. The Committee sees no reason why such an agreement would not be an acceptable solution to the provision of adequate low-level radioactive waste disposal capacity in the context of the policy set out in the Act. Therefore, the agreement would be an entirely acceptable substitute for compliance with the milestones of the Act.

This provision could also provide a useful safety valve—assuming acceptance by the affected sited region—for a non-sited State that is concerned that it may not, for whatever reason, be in compliance with one or more of the milestones. By a suitable "free-market" economic arrangement, such a State could, under this provision; protect its important waste generators from, for example, denial of access to disposal capacity and the concomitant risk of disruption to socially valuable activities.

Senate Energy Committee, pp. 13-14

Senator Evans explained further on the Senate floor:

We included a large number of those provisions in the bill passed by the Senate Energy and Natural Resources Committee. Indeed, this act provides that a nonsited State or compact region may at any time enter into a voluntary agreement with a State that has a disposal facility, which allows the market to operate to some degree. The voluntary agreement provisions, along with the surcharge provisions for the 1992-93 period, do introduce a healthy dose of the marketplace into the current situation.

Congressional Record,

S 18122
12/19/85

Some uncertainties remain about this provision.

- For instance, will an unsited state or region which contracts with a sited region be deemed to satisfy all four milestones early in the limited access period, if the state in question approves?
- Suppose the regional disposal facility in the sited state in question is scheduled to cease operations at the end of the limited access period: How can that state assure disposal of the unsited state's waste after 1993?
- Can an entire region contract with a sited state or must contracts be confined to individual states?
- Can an unsited state or region contract to satisfy some of the milestones or must the contract cover 1986 through 1992?
- Must the sited state take all the unsited state's waste ?

- If a state did not contract for all an unsited state's waste, could that single sited state approve the finding of compliance?

Penalties: Who Pays

Sec. 5(e)(2) This subsection establishes penalties for unsited states and regions when they fail to meet the milestones.

Policy Development. The states engaged in lengthy discussions as to whether, when states missed a milestone, there should be a 'grace period' involving increased surcharges or whether failure should mean immediate loss of access. States also debated early in their discussions the issue of whether states, rather than generators, should be penalized. After considerable review, it was decided to recommend retaining the generator-based penalties of increased surcharges and loss of access. This decision was based on several factors.

First, state representatives were convinced that in many cases states themselves would not be responsible for missing deadlines. Litigation by intervenors was most often cited as an unpredictable factor in causing delay.

Secondly, if states had to pay penalty surcharges, it would be difficult to enforce payments. State legislatures might refuse to pay.

Thirdly, state representatives were reluctant to recommend to Congress that states themselves be subject to penalties above and beyond the burdens of siting new facilities.

Forthly, state representatives felt that with states assuming the institutional responsibility for providing new commercial low-level waste sites, generators

ought to have some stake in the timely implementation of the Act.

Lastly, if utility and medical generators knew that they faced the prospect of increased surcharges and loss of access because of missed milestones, they might be more involved in convincing the public and elected officials of the necessity of creating new disposal capacity.

Legislative Analysis. Reflecting these views, the House Interior Committee report states:

> Section 5(d)(2) prescribes penalties for failure of a state to be in compliance with, or to be a member of a compact in compliance with, the requirements of section 5(d)(1). The penalties are applicable to the generators of low-level radioactive waste within the non-compliant state. It is the intent of the committee that hardship for generators caused by the imposition of penalties will have the effect of encouraging states to take action required to avoid or mitigate such penalties. [The penalties provided are assessment of an additional surcharge on waste generated within the non-compliant state to be paid by the generators of such waste] or denial of access to operating disposal capacity.

House Interior Committee, p. 31

The House Energy Committee adopted similar wording. But, the Senate Energy Committee reopened the issue of appropriate penalties for states or generators. The Committee first proposed that ten-percent of non-complying states' highway funds be attached annually until the milestone was met. (The state reaction to this proposal was so rapid and so

negative that it was dropped from staff drafts within days.)

The Senate Energy Committee then substituted for the highway fund penalty a provision that would have required states to reimburse generators for any penalty surcharges they incurred. The states objected to this approach as well, and the version of the bill that passed in the Senate and the House contained the penalty provisions originally adopted by the House.

Penalty Surcharges: How Much?

The subparagraphs of this section, while they explain the penalties, all leave a number of issues unresolved.

Sec. 5(e)(2)(A),(B),(D) The additional money to be assessed generators whose state or region fails to meet milestones in 1986, 1988 or 1992 is computed by multiplying the normal surcharge. The law states that "any generator . . . shall . . . be charged (x) times the surcharge otherwise applicable under subsection (d)." What is unclear in this wording is the total amount a generator must pay during a period of non-compliance. Using 1986 as an example, these subparagraphs, as written, could mean.

- The generator pays the base surcharge ($10), plus a penalty of double that figure (2 x $10) for a total of $30,
- The generator pays only two times the base surcharge (2 x $10) for a total of $20, the base surcharge being held in abeyance until the region complies or
- The generator pays the base surcharge ($10), plus an equivalent penalty surcharge ($10) for

a total of $20, equaling "two times the surcharge otherwise applicable."

The choice of the first option over either of the last two could make millions of dollars difference in generator payments particularly in 1988 and 1992. (Since Sec. 5(d)(2)(G) says that no rebates are collected during periods of non-compliance, this section has no impact on the rebate provisions.)

While it was commonly understood by that the total payments during penalty periods would be simple multiples of the base surcharge, (as in the last bullet point above) the explanatory passages in Committee reports and in floor statements do little to clarify the subparagraphs (A), (B) and (D).

The House Interior Committee reports state simply that:

The penalties provided are assessment of an additional surcharge on waste generated within the non-compliant State to be paid by the generators of such waste...

House Interior Committee, p. 31

The House Energy Committee report says only:

If any State misses the first milestone date of July 1, 1986, in the first six months following such date, generators within such State may be charged two times the surcharges established in subsection (i). On January 1, 1987, if the State has still not complied, access may be denied to all generators within such State.

* * *

If a non-member State or compact region misses the second milestone of January 1, 1988, generators in the State or compact region may be

> charged two times the surcharge established in subsection (i) through the first six months, followed in the second six months by a surcharge which may be four times the surcharge established in subsection (i). If the non-member State or compact region is still in noncompliance by January 1, 1989, all generators in such State or region may be denied access.

House Energy Committee, pp. 31-32

(Note that the House Energy Committee report says generators "may be changed", thus, the penalty surcharges were discretionary. In the House Interior Committee and the final version of the bill, the penalty surcharges were mandatory.)

The Senate Energy Committee adopted a penalty surcharge far different from any other version of the bill. Thus, the Committee report is not helpful in solving the disputed section.

Finally, floor statements are the remaining source of information as to Congressional intent on the penalty surcharge. Taken collectively, they fail to offer definitive help.

For example, Senator Mitchell repeats the formula of doubling the surcharge:

> If a State or compact region fails to meet either of the first two milestones, the sited States may impose a penalty surcharge, a doubling of the surcharge, on wastes disposed of from the State or region during the period after the milestone deadline.

Congressional Record,

S 18119
12/19/85

Senator Hart provides a more detailed description:

> If a State fails to meet the milestone, there is a penalty surcharge assessed. The surcharge is in effect at all times, during this limited access period, although at various rates, beginning as $10 per cubic foot during 1986 and 1987. The penalty surcharge for the 1986 milestone is two times this $10 surcharge, or $20 per cubic foot, during the first 6 months after the July 1, 1986, deadline. As of January 1, 1987, a State missing this deadline may be denied access by the sited States for failure to meet this milestone.
>
> Congressional Record,
>
> S 18104
> 12/19/85

Hart's statement seems to suggest that two assessments are to be imposed during periods of non-compliance—the surcharge ("in effect at all times") and the penalty surcharge. This interpretation is strengthened by Hart's later description of the fiscal penalties missing the 1992 milestone.

> If a State or compact region fails to meet either of the first two milestones, the sited States may impose a penalty surcharge, a doubling of the surcharge, on wastes disposed of from that State or region during the period of noncompliance, and for a limited grace period after the milestone deadline.
>
> Congressional Record,
>
> S 18104
> 12/19/85

This passage could be read to authorize a total collection of $160 per cubic foot.

The view that there are two separate collections is also supported by the wording of Sec. 5(d)(2)(G) which says that "no rebate shall be made under this subsection of any surcharge or penalty surcharge paid during a period of non-compliance with subsection (e)(1)." This phrasing distinguishes "surcharges" from "penalty surcharges" and clearly implies that surcharges will continue to be collected during a penalty period. Senator Dan Evans, who proposed the 1992 milestone and penalty, also referred to penalty surcharges in the Congressional Record:

> Since I understood that the Senate Environment Committee was insistent on the language in the 1990 milestone, I suggested that a State or compact region which fails to reach the NRC license application deadline by January 1, 1990 be required to pay a higher surcharge. I originally intended the surcharge to be set at the discretion of the Governor of the accepting State. But I realize that some of the unsited regions have a concern that the Governor would have unlimited discretion to set the surcharge. So I agreed to limit the surcharge to a range between $40 to $120 per cubic foot. I also agreed to allow the surcharge to apply only after January 1, 1992.

Congressional Record,

S 18122
12/19/85

This statement suggests that the total penalty payment would not exceed three times the base surcharge, since the base surcharge in 1992 is $40, and Senator Evans says that the range will vary from $40 to three times that amount, $120.

Given the conflicting statements of Committee reports and individual Representatives and Senators, it is impossible to conclusively determine the legal interpretation of these subparagraphs, whatever the common assumptions were at the time the legislation was written.

Penalty Surcharges Mandatory

Complicating the penalty payment issue is the fact that the law makes the penalty surcharges mandatory. While the sited regions may impose the denial of access penalty at their own discretion, they have no choice with the fiscal penalties for missed milestones.

Base Surcharge to Compute Penalty

While sited regions are free to impose any surcharge they want to up to the limits of Sec. 5(d)(1), the base surcharge used in computing the penalty surcharges would appear to be the optimum figures cited in Sec. 5(d)(l), i.e. $10, $20 and $40.

Duration of Penalty Surcharge

The period during which sited regions are permitted to impose penalty surcharges is defined in the legislation. Therefore, if a sited region chose not to impose a "denial of access penalty", it could probably legally offer to continue taking an out-of-compliance region's waste but that agreement—should the generators agree to pay a premium for continued access, would have to be voluntary.

1990 Penalty

Sec. 5(e)(2)(C) There is no grace period for this milestone since the second 1990 option [Sec. 5(e)(1)(C)] permits the governor to certify a state's future course of action. The Governor's Certification

was not deemed to merit a delay in the imposition of loss of access.

1992 Milestone

Sec. 5(e)(2)(D) In contrast to the 1986 and 1988 milestones, there is no date specified for the end of the 1990 penalty surcharge. The surcharge is mandatory and must be paid until the appropriate state or region files a complete license application.

Denial of Access

Sec. 5(e)(3) This provision prohibits sited regions from selectively excluding wastes on the basis of origin after they have imposed the denial of access penalty.

Policy Development. This policy was debated both in the House Interior and the House Energy Committees. Proponents of the provision argued that for the denial of access penalty to be effective, all generators in the affected state or region should be excluded. Otherwise, hospitals and small generators might be admitted (because of intense pressures on sited region governors to prevent adverse health and safety effects), and only utilities might be forced to store on site. Much of the negative impact of loss of access would thus be mitigated. Opponents of this provision argued that denial of access could have substantial health, safety and economic effects and that therefore sited region governors should have the discretion to admit certain types of waste on a case-by-case basis.

The opposition of utilities to allowing discrimination, coupled with the lack of enthusiasm of sited region governors for discretionary treatment of waste, led to the restoration of the denial of access provision

in the final House Energy Committee bill, especially after the emergency access section was worked out [See Sec. 6, Emergency Access].

Legislative Analysis. While the House Interior Committee bill contained the denial of access provision, the Committee report did not mention it. The House Energy Committee report did refer to the provision:

> However, if the denial of access penalty is imposed, paragraph (3) requires the denial of access may be applied in a nondiscriminatory fashion and may not be based on the source, class or type of low-level radioactive waste.

House Energy Committee, p. 32.

Congressman Swift acknowledged the inclusion of the provision but expressed his reservations.

> Finally, I would like to observe that although this bill is not entirely to my liking, I believe that it is, for the most part, a fair and balanced package. One provision, however, deserves comment because I believe it to be very misguided. This provision—the so-called non-discrimination provision—deprives the Governor of a sited State the right to voluntarily grant access to medical generators who come from a State which has lost its rights of access. It is my view that a decision to deny access to medical generators should be made by the Governor on a case-by-case basis, and only after all of the possible consequences to public health have been considered. The problem with this provision is that it requires that such denial of access to medical generators be automatic and unthinking. Unfortunately, my view of this one matter has, thus far, been a minority

viewpoint. I do not believe that this provision justifies voting against the bill -- but I do believe that the bill would be substantially improved if it were gone.

Congressional Record,

H 11414
12/19/85

Congressman Neilsen, however, supported the adopted version:

I want to particularly commend Congressman Moorhead for a key amendment inserted in the Energy and Commerce Committee which restored the bill to the Interior Committee version, namely that no State could refuse indiscriminately waste from other States, they had to take them all, or nothing at all, they could not say "Health waste is OK, other waste is not."

Congressional Record,

H 11416
12/19/85

Availability of Information

Sec. 5(f)(2) This paragraph is the result of requests by the sited regions for enforcement powers to assist them in collecting information necessary to implement the Act. The Senate Energy Committee explained the purpose of the provision.

Subsection (g) gives the States of South Carolina, Washington and Nevada authority to obtain the data necessary to carry out their new role envisioned under this Act. Any generator or intermediate handler of low-level radioactive waste who fails to provide the requested information is

> subject to denial of access. Proprietary information is protected by placing prohibitions on the dissemination of trade secrets, proprietary information, and other confidential data.

Senate Energy Committee, p. 15

The generators and site operators expressed some concerns about the protection of confidential business information. Senator McClure offered assurances that the Senate was aware of the need for protection.

> The administrative provisions are more carefully drafted, reflecting the Energy Committee's concerns about protection of proprietary information.

Congressional Record,

S 18114
12/18/85

No further explanatory material is available on the subparagraph.

Non-Discrimination

Sec. 5(g) This subsection is self-explanatory, and both the House Interior and Energy Committee reports simply restate the provision almost verbatim. While the intent of this provision is to prevent sited regions from imposing discriminatory restrictions on unsited region's waste, this provision also appears to affirm a sited state's or region's ability to impose any appropriate legal requirements on out-of-region waste as long as it imposes them on in-region wastes as well.

SEC. 6 EMERGENCY ACCESS

Sec. 6 This provision is designed to allow the Nuclear Regulatory Commission to assess and remediate threats to the public health and safety that may arise because of lack of access to operating sites.

Policy Development. While most of the discussions involving emergency access focused on the limited access period, Sec. 6 does constitute a permanent delegation of authority to the NRC to override the exclusionary powers of compacts and individual states. As the House Energy Committee noted:

> This provision is designed to function beyond the seven-year period of limited access.

House Energy Committee, p. 32

The key issues in the emergency access discussions were the reasons for granting emergency access, the total volume of waste granted emergency access, the duration of the grant and the number of times a single generator's access could be extended. The basic conflict was between the sited regions' concern that, since non-utility emergency access allocations were not included in the seven-year ceilings, Sec. 6 could be used to circumvent their hard-won volume limitations; and the concern of unsited regions, environmentalists, the NRC and some prominent members of Congress that the denial of access provisions in the legislation might lead to situations threatening public health and safety.

Legislative Analysis. The lengthy and specific provisions of Sec. 6 were designed to resolve differences between the denial of access provisions of the legislation and potential threats to public health. The following excerpts from committee reports and floor

debate explain the rationale and the functioning of the emergency access provision.

The House Interior Committee noted that:

> Section 6 makes available access to *any* operating low-level radioactive waste disposal facility in the United States for low-level radioactive waste from any source or location if the Nuclear Regulatory Commission determines such access is necessary to alleviate an immediate and serious threat to public health and safety. The committee believes this access may be necessary for rare emergencies but that instances where no alternative to disposal in a facility under this procedure exists are unlikely. The committee anticipates that a regional system of disposal facilities managed by interstate compact commissions as anticipated under this act is likely, if no alternative to disposal is available, to voluntarily provide capacity at some site if a threat to public health and safety, or any serious disturbance in availability of disposal capacity, exists.
>
> This section is not intended to circumvent allocations made available in section 5, or to deal with waste from unusual but otherwise manageable maintenance problems, such as pipe breaks at nuclear power reactors.

House Interior Committee Report, p. 33

In a lengthy discussion of the need for and restrictions on emergency access allocations, the House Energy Committee report asserted:

> The bill requires the Nuclear Regulatory Commission to provide emergency access to any commercial disposal facility if there is a serious

and immediate threat to the public health and safety caused by the inability of a generator or owner of waste to manage or dispose of such waste. John G. Davis, Director of the Office of Nuclear Material Safety and Safeguards, Nuclear Regulatory Commission, went on to state in testimony given before the Subcommittee on Energy Conservation and Power:

> Given the difficulty of estimating the most likely rate of volume reduction for each class of waste-generating activity, any attempt to develop binding limits for disposal site access, either in the aggregate or for specific generators, should be undertaken with caution. Some provision for an emergency exemption from these limits would thus be prudent...[T]he terms of access to sited compact facilities might result in waste generators having to store wastes or cease waste generation without adequate provision for protection of public health and safety . . . . Our basic concerns are that the denial of disposal site access may result in health and safety impacts and that these impacts may not be fully considered . . . .

The bill incorporates these NRC recommendations with clear and workable emergency access authorities. Since the purpose of the legislation is to provide for the safe disposal of low-level radioactive waste, it is necessary to provide sufficient authority to the NRC to override any of the limitations on access to facilities when the public health and safety are at stake. The authority for a State or region to exclude waste after 1992, the seven year caps on existing facilities, the utility allocations and the denial of access penalties all

serve reasonable policy objectives to reduce waste going to the three existing facilities and to provide incentives to build new facilities. However, the limitations need to be balanced by emergency provisions that ensure that appropriate actions will be taken in the event that the limitations in the bill create threats to the public health and safety. Therefore the bill provides full authority to the NRC to provide for emergency access unencumbered by unnecessary restrictions which could delay effective remedies.

A graphic example of the need for broad emergency access is provided by the case of medical generators. Nearly twenty-five percent of the low-level radioactive waste generated in the nation is the result of medically related activities. Over 200 million medical procedures involving radioactive waste materials are performed each year. These procedures are used to combat cancer, to diagnose blood and organ disorders and to pinpoint disease. The medical profession is now undergoing a radical revolution in the increased use of diagnostic treatments based on the use of radioactive materials. In addition, radioactive tracers are routinely used in the development and testing of new drugs. If medical generators were deprived access to currently operating facilities, the effects could be both widespread and tragic.

House Energy Committee, p. 21

The House Energy Committee report continues, explaining why NRC is given the override authority.

The NRC is vested with the responsibility for making the determination to grant emergency

> access for several reasons. First, the Atomic Energy Act, as amended, charges the NRC with the mission of protecting the public health and safety from radiological hazards associated with the production and use of source, byproduct and special nuclear material. Second, H.R. 1083 provides that—
>
> [N]othing contained in this Act or any compact may be construed to limit the applicability of any Federal law or to diminish or otherwise impair the jurisdiction of any Federal agency.
>
> Third, as a Federal agency, the NRC is an impartial party which will be guided by the national interest, rather than regional interests. Fourth, the NRC has the necessary expertise to make an informed determination as to the hazards posed by low-level radioactive waste.

House Energy Committee, p. 22

Although the emergency access provision was more thoroughly discussed than most sections of the bill, some questions remain. These are addressed under separate headings below.

Non-Federal Facility

Sec. 6(a) The term "non-federal facility" is not defined in the Act but was understood by Congressional staff to refer to commercial (as opposed to federal) facilities established in non-compact states. This subsection, therefore, does not authorize NRC to grant emergency access to federal sites.

Request for Emergency Access

Sec. 6(b) Any generator or governor may request NRC to grant emergency access. Only waste for which

states have responsibility is eligible for the NRC override.

> The NRC may grant limited and temporary access to any commercial low-level radioactive waste disposal facility for any quantity of waste which is a State responsibility.

House Energy Committee, p. 22

DOE first raised the issue of the impact of loss of access on national security. In testimony before a joint hearing of the Senate Energy Committee and Senate Environment Committees, Assistant Secretary James Vaughn summarized the DOE position.

> Section 5(h) of both S. 1517, as modified by Amendment 583, and S. 1578 provides for access to disposal facilities based on a determination of a threat to public health and safety. While we fully agree with the intent of such a provision, an equally essential provision should be included to assure that national security is not compromised. The Department recommends that section 5(h) be modified to allow the President or his designee to grant access to any operating disposal facility for low-level radioactive waste generated as a result of activities of the Department of Defense if there is no disposal facility in operation in the State or region of origin and disposal of the waste is required for reasons of national security. Specifically, section 5(h), EMERGENCY EXEMPTIONS, should be modified by adding new paragraph (1), as follows:
>
> > "(1) The President or his designee may grant emergency access to any operating disposal facility for low-level radioactive waste generated by Department of Defense activities if the

President or his designee determines that there is no disposal facility in operation in the State or region where the waste was generated and that disposal of such waste is necessary to assure national security."

Existing paragraph (1) and the remaining subsections should be redesignated (2) through (5), respectively.

We have reviewed this approach with Department of Defense officials, who agree with the necessity for such a provision.

Senate Energy Committee, pp. 25-26

Legislative Analysis. The states successfully prevented the inclusion in the Public Law of an amendment reflecting a DOE recommendation that the President or his designee be able to override compacts on national security grounds. The compromise designating NRC, rather than the President or his appointee, as the agency for determining when emergency access should be granted for common defense and security reasons was acceptable to the states, particularly when NRC would have to employ the same criteria for judging security issues as for granting commercial access. NRC may wish to consult the armed services or DOE prior to reaching its decision.

Consistent Alternatives

Sec. 6(c)(1)(B) Policy Development. The definition of what constituted an 'alternative consistent with public health and safety' occupied House and Senate committees and members throughout consideration of the bill. Two issues predominated. Was ordering the curtailment of the operations which generated

the problem waste an alternative which NRC could consider? And should NRC judge only the immediate health and safety effects of the waste in question or should it also consider the secondary health and safety impacts if the industry producing the waste were restricted or closed?

Legislative Analysis. The House Energy Committee report first addressed these issues and clearly stated that ceasing operations was not a "reasonable alternative."

> An alternative would not be reasonable if it resulted in the significant curtailment or cessation of medical services or other services affecting public health and safety. In no case should adoption of a reasonable alternative lead to the closure of a business.

House Energy Committee, p. 22.

The House Energy Committee report returned to these issues in greater detail:

> in determining whether such an alternative is reasonable, the NRC shall consider if the alternative is within the economic and technical grasp of the generator. For example, if the applicant has on-site storage available or can obtain on-site storage in time to mitigate the need for emergency access, the NRC shall direct the applicant to do so. In addition, if the applicant can curtail generation of the waste, the NRC shall consider directing the applicant to reduce such waste generation. However, in the case where such a reduction in waste generation would lead to a significant curtailment of production activities in an industry related to medical services or other services affecting public health and safety, such

alternatives would not be reasonable. In some cases, generators are restricted by the terms of their licenses as to the amount of a specific radioisotope which they are allowed to have on site at any one time. Requiring such a generator to store waste on-site may greatly reduce the amount of a radioisotope available to a generator for use in producing certain materials. If on-site storage in this case would greatly restrict the ability of the generator to carry on the activities which generate the waste, activities related to medical services, or other services affecting public health and safety, such an alternative would not be reasonable.

In making a determination to grant emergency access for generators, the NRC should consider not only the threat to the public health and safety posed by the waste itself, but also the threat to the public health and safety if activities which lead to the production of waste were curtailed due to the inability of a generator to dispose of such waste. For example, were the production of medical devices curtailed due to a loss of access or limitation, the NRC would consider the impact of curtailed services on the public health and safety when making a determination of whether emergency access would be granted.

House Energy Committee, p. 33

(The Senate Energy Committee adopted a completely different version of the emergency access provision. That version did not survive in the final legislation and the Senate Energy Committee report does not address these issues.)

When the bill reached the floor, the discussion of Congressional intent was renewed. On December 9, Representative Swift (addressing the issue of cost, not termination of operations) stated:

An alternative is not reasonable simply because it might be quite expensive. It should be noted that both the Interior Committee—in its bill—and the Energy and Commerce Committee—in its report—specifically state that the onsite storage of such waste is a reasonable alternative.

Congressional Record,

H 11414
12/19/85

By the time the legislation reached the Senate floor, the requirement that NRC examine as one alternative the "ceasing of activities that generate low-level radioactive waste" was part of Sec. 6(c)(1)(B). Floor discussion consequently focussed on whether the health and safety impacts of closing down manufacturers of medical devices should be weighed by NRC.

During the Senate's initial floor consideration of the bill on December 19, Senators Simpson and Evans engaged in a colloquy.

> Mr. SIMPSON. The NRC is first to examine and exhaust all the possible alternatives to granting emergency access such as on-site storage, voluntary agreements with sited States, and purchasing the unused allocations of utilities.
>
> Mr. EVANS. Is it my further understanding that ceasing to generate low-level radioactive waste shall be considered by the Commission as an

equal alternative with the ones the Senator just mentioned?

Mr. SIMPSON. Yes, the Senator is correct. In fact, I think we have accommodated the concern of the Senator from Washington by including this criterion in the statutory language of the substitute. Let me clarify that such alternatives must be "consistent with the public health and safety" as defined by the NRC. There may be some benefits from the generation of low-level radioactive waste to the public health that the Commission must consider in making its determination of the need for emergency access. For example, the Commission would probably consider the benefits to the public health and safety brought about by the use of radiopharmaceutical products in cancer research and other critical medical research.

Congressional Record,

S 18115
12/19/85

Just hours later, Representative Markey addressed the same issue on the House floor.

Second, when the NRC is making a determination to grant emergency access on whether an alternative to access exists, the NRC shall consider not only the threat to the public health and safety if activities which lead to the production of waste were curtailed or stopped. For example, if the cessation of operations at a concern which produces medical devices would mitigate the need for access, but would at the same time impact the quality of medical care available to the public, requiring the concern to cease opera-

> tion would not be an alternative consistent with the public health and safety.

Congressional Record,

H 13077
12/19/85

As the bill approached final passage in the Senate, Senator Evans had a final comment on emergency access.

> Furthermore, it is my understanding that the four alternatives to emergency access listed in section 6(c)(1)(B) are coequal, including the alternative of ceasing to generate low-level radioactive waste. It is my understanding this means that making a voluntary agreement with a disposal facility in a sited State should be considered fully as an alternative. Also, it is my understanding that price for disposal should not be a factor which leads the commission to determine that a voluntary agreement is not achievable.

Congressional Record,

S 18253
12/19/85

Based on these passages, it appears Congress agreed that ceasing operations is one alternative NRC may consider and that the secondary health impacts of stopping production of certain medical materials is as legitimate a "health and safety" consideration as the immediate threat posed by the waste itself. The House Energy Committee's above comments on cost as a factor are probably definitive.

NRC Selection of Disposal Site

The House Energy Committee bill contained a number of criteria for NRC's determinations as to

which operating site should take low-level waste granted emergency access. The final version of the bill lacks these criteria. It is likely that since more than one site might be required to accommodate the waste (because of the twenty percent limitation) the detailed House Energy Committee criteria were omitted. [see Sec. 6(h).]

Temporary Emergency Access

Sec. 6(d). This subsection was included to allow the NRC to provide emergency access, pending an NRC determination as to whether the problem can be resolved by an alternative consistent with the public health and safety. (The temporary emergency access provision in the Public Law differs from the House-passed version in that the House bill required NRC to determine that no reasonable alternatives exist before granting temporary access rather than afterwards.)

Temporary emergency access is limited to forty-five days, by which time the NRC must respond to the request for emergency access and make the determinations required in Sec. 6(c)(1). If these determinations are made in the affirmative, presumably the forty-five day temporary grant is. superseded by the up-to-180-day grant of emergency access. (It is possible that NRC could deduct from the grant of emergency access the number of days which had transpired in the temporary grant but is not obliged to do so.)

No other commentary on the temporary emergency access provision occurs in the. official record.

Extension of Emergency Access

Sec. 6(e) Policy Development The question of how often the NRC can extend emergency access occasioned lengthy debate between the House Interior

and the House Energy Committees. The House Interior Committee bill had permitted. one extension of up-to-l80 days after the initial 180-day grant. The House Energy Committee had provided for an- unlimited number of successive 180-day extensions during the seven-year limited access period and up to a one-year cumulative extension after January 1, 1993. Sited regions objected that more than one extension would undercut the milestone penalties and invite states to view December 1993 rather than December 1992 as the end of the interim access period. Following negotiations between the House Interior and the House Energy Committees, the more restrictive provisions of the House Interior bill were incorporated in the House bill.

The Senate Energy Committee, responding to an effort by sited region Senators to tighten up the emergency access provisions, adopted a new approach which allowed sited region governors to unilaterally determine whether they would take waste from generators which had lost access; and if they took the waste, to place any price tag they wanted to on its disposal. (This approach was rejected by the Senate Environment Committee which restored the basic proposals of the House Interior Committee.)

Legislative Analysis As the legislation proceded through Congress, the emergency access provision continued to receive comments. Representative Swift emphasized the time limits of the House bill on December 9.

> Furthermore, such access may be granted only for 180 days at a time; and after January 1, 1993, no more than the extension of access may be granted, so that the maximum period for access

under the worst circumstances would be 360 days.

Congressional Record,

H 11414
12/9/85

Representative Markey, responding to the emergency access provision in the final version of the bill, stated:

> First, the emergency access provision does not limit the number of grants of emergency access which a generator or Governor may request. While it is clear that a generator may only seek one extension of a grant of access, nothing in this provision would permit (sic) a generator from seeking more than one grant of emergency access.

Congressional Record,

H 13077
12/19/85

(Markey must have said "prevent" instead of "permit.")

Senator Evans provided his own observations on how often NRC should be able to grant emergency access and an extension. Senator Simpson concurred.

> I understand that the intended limitation on the use of emergency access in section 6 is to allow only one grant and one extension per generator for any particular incident related to the public health and safety. It is my understanding that if incidents which may be a threat to the public health and safety are of a substantially similar nature, the NRC should not be required to provide another grant of emergency access at

another point in time. In effect, any generator or any state must choose carefully when to request the NRC for emergency access.

Mr. SIMPSON. The Senator is correct in his understanding.

Congressional Record,

S 18253
12/19/83

Diligent Effort

Under Sec. 6(e), NRC may not grant an extension of emergency access unless it finds that both the generator and State have acted "diligently though unsuccessfully" to eliminate the need for continued emergency access. Only the House Energy Committee report commented on this provison.

> If the grantee has made a diligent effort to comply with the actions listed, the grantee is eligible for an extension of the initial grant of access. This provision is designed to prevent the needless aggravation of an emergency through the lack of a good faith effort on the part of an applicant to mitigate the need for such an extension.

House Energy Committee, p. 23

Compact Commission Approval

Sec. 6(g) This provision was added by the House Interior Committee to avoid accusations that Congress changed the compacts after the states had ratified the texts [see Sec. 212-Consent]. The House Interior Committee report explained the conditions under which compacts were approved.

Section 6(g) requires that any grant of emergency or reciprocal access under this section shall be submitted to the compact commission for the region in which the designated disposal facility is located for such approval as may be required under the compact. The committee notes that low-level radioactive waste compacts ratified by Congress have authority to deny access to disposal facilities operated by the compact. Ratification of the compacts has been recommended by this committee to be conditioned, however, on the compact's acting in accord with certain provisions of this act. Under the committee's recommended amendments to each compact, if the compact organization refuses to provide under its own authorities emergency access under this section, Congressional ratification of that compact would be null and void. In such a case, the compact would no longer be authorized to exclude waste from the facility, and such exclusion would be a violation of the Inter-state Commerce clause of the Constitution.

House Interior Committee, p. 34

Twenty Percent Limitation

Sec. 6(h) The twenty percent limitation was included by the House Energy Committee with the support of states and regions, which desired some volume limitations on the waste NRC could direct into a facility. (It was thought that a percentage limit based on the volume the site took the preceding year would result in a more equitable distribution of large volumes and prevent small regional facilities from being overwhelmed by unexpected quantities of waste.)

An analysis of the volumes of waste generated by past accidents, indicated that the twenty percent ceiling was adequate to handle future emergencies.

Volume Reductions Requirement

Sec. 6(i) The House Interior Committee Report provided the following comments on volume reduction:

> Low-level waste granted access under this section is required by subsection 6(i) to be reduced in volume "to the maximum extent practicable." The committee intends that low-level waste be processed with technology which is available at the time the Commission determines that access should be granted under this section, and which the Commission determines is appropriate to the type of waste involved.

House Interior Report, p. 34

It appears that the volume reduction requirement would also apply to waste granted temporary interim access.

SEC. 7 RESPONSIBILITIES OF THE DEPARTMENT OF ENERGY

Financial and Technical Assistance

Sec. 7(a) The House Congressional staff contended that the addition of phrase, "to the extent provided in appropriations act," was necessary to satisfy the appropriations committee. It is unclear whether this phrase means that Congress must provide line item appropriations for categories of assistance specified in subparagraph (1) and (2) or whether general appropriations for DOE can be used to assist states.

The states originally suggested to House Committee staff that a specific authorization figure be

included in the legislation. But, Congressional staff demurred citing uncertainties regarding overall budget constraints occasioned by the Gramm-Rudman Act, the possible involvement of other committees if a specific dollar figure were included and the fact that the rebates would provide states with additional monies for some of the same purposes as listed in this section.

Sec. 7(a)(1)-(2) The House Interior Committee bill did not specify the types of assistance DOE was to provide states. Thus, the House Interior Report offers no explanation of what was intended. The House Energy Committee provision and report language are similar to the House Interior Committee.

The Senate Energy Committee's versions of Sec. 7(a)(1) and (2) are identical to the Public Law. The Energy Committee report reads:

> Section 6 of the Act describes the types of activities for which the Department of Energy will be responsible during the seven-year interim-access period.
>
> These responsibilities include continued technical and financial assistance to states and compact regions for the development of new low-level radioactive waste disposal facilities. The technical assistance to be provided by the Department includes information on disposal siting guidelines, volume reduction technologies, transportation practices, health and safety concerns, and data monitoring. The Department would also provide financial assistance to States, to the extent that the DOE budget allows. The Committee is well aware of the technical expertise and activities that the Department has been provid-

> ing to the States over the past several years in the area of low-level radioactive waste management. The Committee feels that these activities should not only continue, but also expand to the maximum extent possible, so as to be able to assist all States and compact regions of the country in meeting the requirements of the Act.

Senate Energy Committee, p. 16

There were no floor statements explaining DOE technical obligations.

DOE Reports

Sec. 7(b) The House Interior and House Energy Committees' versions of the legislation required DOE to report on the operation of the nation's low-level waste system every five years, presumably in preparation for Congressional review of the compacts at five-year intervals. (Although Congressional review of compacts, other than those ratified in conjunction with the Act, will be staggered over different five-year intervals.)

The Senate Energy Committee added the comprehensive annual report language requiring DOE to report on six major areas. The Senate Energy Committee report does not elaborate on the contents required in the DOE report. There are also no informative comments in the floor debate. DOE is thus left with little guidance as to how comprehensive Congress wanted the report, particularly the section on transportation. In addition, DOE is not granted authority to collect currently unavailable information from generators, brokers, disposal site operators, treatment centers or transporters.

SEC. 8 ALTERNATIVES TO SHALLOW LAND BURIAL

Sec. 8 This section was added by the House Interior Committee when it became evident that many states and regions would not be using traditional shallow land burial and were searching for alternate means of disposal. Since Congress did not want delays in the availability or application of regulations to hinder states or regions from meeting milestones, it established milestones for NRC to issue required regulations.

The House Interior Committee report provided the on: commentary on this section:

> Section 11* requires the Nuclear Regulatory Commission to promulgate criteria for the licensing of low-level radioactive waste disposal facilities that use methods other than shallow land burial.
>
> The committee notes that conventional shallow land burial technology as it is used for more concentrated wastes at operating disposal facilities and as required to be developed and implemented under the Commission's regulations currently in effect for licensing of low-level waste disposal facilities (Part 61, Title 10, Code of Federal Regulation) encompasses a broad range of disposal techniques. The current Part 61 should serve as an adequate licensing base for available low-level waste disposal technologies, including those with extensive enhanced engineering features.

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* Refers to equivalent section in House committee bill.

> The committee is concerned, however, that due to the diversity of disposal techniques being proposed by the waste management industry and being considered by states and compacts, Part 61 in itself does not provide adequate guidance as to the licensability of disposal technologies, the issues which will be required to be addressed in licensing, or the data necessary to resolve issues.
>
> It is not and should not be the role of the Commission to provide information that would bias judgments in the commercial markets as to the selection of a particular provider of low-level waste-related technology. The committee believes that the Commission must, however, provide the maximum amount of generic information possible regarding the range of technology being proposedand considered, for example in terms of materials common to a range of technologies.
>
> The committee is neither endorsing nor encouraging the use of any type of enhanced engineering technology. Testimony before the committee supported the view that modern conventional shallow land burial technology with packaging appropriate to each waste class and with appropriate intrusion barriers and geologic isolation is adequate for most conceivable sites.

House Interior Committee, p. 35

The House Energy Committee offered a one sentence comment. The Senate Energy Committee version did not contain this provision, and no reference to alternatives to shallow land burial occurred on the floor.

SEC. 9 LICENSING REVIEW AND APPROVAL

Sec. 9 This section was also included by the House Interior Committee in order to accelerate the licensing of new low-level waste sites. States and members of Congress had expressed concern that a state might submit a license application by 1990 and not receive a license in time to have a site operating by 1993. In addition, environmentalists and several members of Congress were concerned that, in the process of expediting licensing, public participation might be restricted. For this reason, the time constraints in this section do not apply to public hearings.

The House Interior Committee explained the purpose of this section.

> Section 14* requires the Commission and agreement states to expedite consideration of applications for licenses for low-level waste disposal facilities. Paragraph 2 encourages the commission and the states to complete all activities associated with the review and processing of any application for such a license not later than 15 months after the date the application is received. In calculating the 15-month period, the time necessary to provide public hearings shall not be considered. Public hearings should be provided as necessary and appropriate. Nothing in this section shall be construed to alter existing applicable procedures or the standing or rights of parties in such procedures, or requirements for public hearings under such procedures.

House Interior Committee Report, p. 35

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* Refers to equivalent section in House committee bill.

Section 11* requires the NRC or Agreement States to establish procedures and capability for processing license applications not later than 12 months from the passage of this Act. All activities associated with the review and processing of applications, except for public hearings, shall to the extent practicable be completed within 15 months. In addition, technical and environmental reviews as well as public hearings, shall be consolidated to the extent practicable.

House Energy Committee, pp. 36-7

No other committee report or floor statement contains references that aid in interpreting this section's intent.

SEC. 10 MATERIALS BELOW REGULATORY CONCERN

Sec. 10 This section requires NRC to establish standards and procedures for dealing with materials judged to be below regulatory concern (BRC). Even though NRC possessed the authority to declare materials BRC, the section is intended to extend the operating life; of low-level waste facilities by encouraging NRC to exempt c[e]rtain low-activity waste streams from disposal at NRC-licensed

While a section with similar intent was included in the House versions of the bill, Sec. 10 or the Public Law is different in several respect.

First, the House bills required NRC. to identify materials that did not need to tile disposed or in licensed low-level waste sites. Having done chat, the NRC was required to establish new standards .Cur disposal of this material in non-licensed sites—standards which protected public health and safety.

The reports of the House Interior and House Energy Committee explain what was desired.

> Section12* requires the commission to promulgate standards for materials classified as low-level radioactive waste under its authority under the Atomic Energy A that is only slightly contaminated and which may be disposed of in facilities which are not licensed under Part 61 without posing a threat to public health and safety. It is the committee's intent that the Commission provide guidance for the proper disposal of radioactive materials classified as not requiring disposal as waste, beat that a specific permit or license for such disposal not be required.

House Interior Committee Report, p. 35

> Subsection (a) of section 12 requires the NRC to identify by rule any low-level radioactive waste, as defined by the Act. which is not required to be disposed of at low-level radioactive waste facilities in order to protect the public health and safety. In addition, the NRC is directed to establish technical requirements and criteria for the disposal of such waste in a manner that protects the public health and safety. The NRC should exercise such authority with particular care and diligence to ensure that waste that may be a possible threat to public health and safety does not escape careful regulation.

House Energy Committee, pp. 36-37

Second, the Public Law's Sec. 10 requires NRC to establish standards, procedures and the technical capability to review petitions to exempt particular

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* Refers to equivalent section in House Committee bill.

waste streams rather than an absolute standard. Generators have to petition NRC each time they wish to exempt material from burial at a licensed site.

Although no Senate report language or floor statements refer to Sec. 10, the references to a "waste stream" rather than specific waste materials suggest that once an exemption for a waste stream is established, subsequent petitions for similar wastes will be forthcoming expeditiously.

The Public Law does not require NRC to establish disposal standards for exempted material.

APPENDIX A: RELEVANT LAW AND LEGISLATION

Public Laws

P.L. 96-573	Low-Level Radioactive Waste Policy Act of 1980
P.L. 96-510	Comprehensive Environmental Response Compensation and Liability Act of 1980 (Superfund)
P.L. 97-425	Nuclear Waste Policy Act of 1982
P.L. 99-240	Low-Level Radioactive Waste Policy Amendments Act of 1985
P.L. 99-499	Superfund Amendments and Reauthorization Act of 1986

Legislation and Reports

H.R. 1083,	Low-Level Radioactive Waste Policy Amendments Act of 1985
H.R. 99-314,	House Interior Committee Report (H.R. 99-314, Part 1) House Energy Committee Report (H.R. 99-314, Part 2)
S. 1578	Low-Level Radioactive Waste Policy Amendments Act of 1985 Senate Committee Report (S. 99-199)
S. 1517	Low-Level Radioactive Waste Policy Amendment Act of 1985 Senate Environment and Public Works Committee Report (not released)

APPENDIX B: RELEVANT CONGRESSIONAL COMMITTEES

United States House of Representatives

Committee on Energy and Commerce	(Chairman John Dingell)
Subcommittee on Energy Conservation and Power	(Chairman Edward Markey)
Committee on Interior and Insular Affairs	(Chairman Morris Udall)
Subcommittee on Energy and Environment	(Chairman Morris Udall)

In the House, the Committee on Energy and Commerce and the Committee on Interior and Insular Affairs had jurisdiction over both the Amendments and the compacts.

United States Senate of the United States

Committee on Energy and Natural Resources	(Chairman James McClure)
Committee on Environment and Public Works	(Chairman James Stafford)
Subcommittee on Nuclear Regulation	(Chairman Alan Simpson)
Committee on the Judiciary	(Chairman Strom Thurmond)

In the Senate, the Committee on Energy and Natural Resources and the Committee on the Environment and Public Works had jurisdiction over the

Amendments. The Committee on the Judiciary had jurisdiction over the compacts.

APPENDIX C: MEMBERS OF CONGRESS REFERRED TO IN THE TEXT

United States Senate

Senator Lloyd Bentsen (D-Texas)	Ranking Minority Member, Committee on Environment and Public Works
Senator Daniel Evans (R-Washington)	Committee on Energy and Natural Resources
Senator Gary Hart (D-Colorado)	Committee on Environment and Public Works Ranking Minority Member, Subcommittee on Nuclear Regulation
Senator J. Bennett Johnston (D-Louisiana)	Ranking Minority Member Committee on Energy and Natural Resources
Senator Frank R. Lautenberg (D-New Jersey)	Committee on Environment and Public Works
Senator Carl Levin (D-Michigan)	
Senator James A. McClure (R-Idaho)	Chairman Committee on Energy and Natural Resources
Senator George Mitchell (D-Maine)	Committee on Environment and Public Works

Senator Alan K. Simpson, (R-Wyoming)	Committee on Environment and Public Works Chairman Subcommittee on Nuclear Regulation
Senator Robert T. Stafford (R-Vermont)	Chairman Committee on Environment and Public Works
Senator Steven Symms (R-Idaho)	Committee on Environment and Public Works
Senator Strom Thurmond* (R-South Carolina)	Chairman Senate Judiciary Committee

*Introduced the Low-level Radioactive Waste Policy Act of 1980 in the Senate.

United States House of Representatives

Representative Butler Derrick** (D-South Carolina, 3rd District)	
Representative Peter H. Kostmeyer (D-Pennsylvania, 8th District)	Committee on Interior and Insular Affairs Subcommittee on Energy and Environment
Representative Edward J. Markey (D-Massachusetts, 7th District)	Committee on Energy and Commerce Chairman Subcommittee on Energy Conservation and Power Committee on Interior and Insular Affairs Subcommittee on Energy and Environment Committee on Energy and Commerce
Representative Carlos J. Moorehead (R-California, 22nd District)	Ranking Minority Member Subcommittee on Energy Conservation and Power
Representative Morris K. Udall*** (D-Arizona, 2nd District)	Chairman Committee on Interior and Insular Affairs
Representative Al Swift (D-Washington, 2nd District)	Committee on Energy and Natural Resources

Representative
Bill Neilsen
(D-Florida, 11th District)

**The low-level waste disposal site at Barnwell, South Carolina is in the 3rd District.

***Introduced Low-Level Radioactive Waste Policy Act of 1980 in the House.

APPENDIX D: GLOSSARY OF ACRONYMS AND TERMS

Acronyms

DOE	Department of Energy
DOT	Department of Transportation
EPA	Environmental Protection Agency
FUSRAP	Formerly Utilized Sites/Remedial Action Program (of DOE)
NARM	Naturally-occurring, Accelerator-produced Radioactive Material
NEPA	National Environmental Policy Act
NGA	National Governors' Association
NRC	Nuclear Regulatory Commission
NWPA	Nuclear Waste Policy Act of 1982
TRU	Transuranic Materials (i.e. elements whose atomic numbers exceed 92, uranium, in the periodic chart of elements)
WIPP	Waste Isolation Pilot Project (of DOE in New Mexico)

Terms

Agreement State	Any state with which the Nuclear Regulatory Commission or Atomic Energy Commission has entered into an effective agreement under subsection 274b of the Atomic Energy Act, as amended. Under the agreement, the Commission relinquishes to the state certain of its authority to regulate the use of reactor-produced isotopes, uranium and thorium (source materials), small quantities of special nuclear materials, uranium mill tailings, and low-level radioactive waste disposal.
Class C Waste	Materials with concentrations of radioactivity falling within the limits established by NRC for class C waste in 10 CFR 61.55 as of January 27, 1983.
Compact	An agreement entered into among two or more states pursuant to the provisions of P.L. 96-573 and P.L. 99-240.
Compact Commission	The regional commission, committee, or board established in a compact to administer such compact.

Formerly Utilized Site/ Remedial Action Programs (FURSRAP)	A term referring to a DOE program to clean up sites contaminated with wastes from the Manhatten Engineer District project and early AEC efforts to develop nuclear power technology. Also used as an adjective for wastes at such sites, as in FUSRAP wastes.
Generators	Persons who produce new low-level waste. See discussion of Sec. 2(9) for a definition of 'new' waste.
Greater Than Class C Waste	Materials with concentration of radioactivity exceeding those established for class C low-level waste by NRC in 10 CFR 61.55 as of January 27, 1983.
Naturally-occurring, Accelerator-Produced Radioactive Material (NARM)	It includes both "discrete" NARM (small-volume, high-activity accelerator-produced materials, radium needles used in medicine and drinking water filters from radon-contaminated areas), as well as "diffuse" NARM (generally lower activity areas), as well as "diffuse" NARM (generally lower activity radium-contaminated soil at locations where radium was used for manufacturing luminous dials and paint).
Operating Sites	NRC licensed low-level waste facilities.

Orphan Waste	Radioactive materials which neither the states nor the federal government has a clear institutional obligation to dispose of.
Public Law	The version of the Low-Level Radioactive Waste Policy Amendments Act of 1985 signed into law on January 7, 1986.
Secretary	Secretary of the U.S. Department of Energy.
Sited Regions	Regions which have a currently operating site, i.e. the Northwest, Rocky Mountain and Southeast Compacts.
Unsited Regions	Regions which did not have an operating site as of January 7, 1986. Every region except the sited regions.
Waste Isolation Pilot Project	A DOE project for the disposal of defense TRU waste, located near Carlsbad, New Mexico. Currently, it is not required to be licensed by NRC.

APPENDIX E: COPY OF PUBLIC LAW 99-240

(LOW-LEVEL RADIOACTIVE WASTE POLICY AMENDMENTS ACT OF 1985)

99 STAT. 1842 PUBLIC LAW 99-240
JAN. 15, 1986

Public Law 99-240
99th Congress

An Act

To amend the Low-Level Radioactive Waste Policy Act to improve procedures for the Jan. 15, 1986 implementation of compacts providing for the establishment and operation of regional disposal facilities for low-level radioactive waste; to grant the consent of [H.R. 1083] the Congress to certain interstate compacts on low-level radioactive waste; and for other purposes.

Be it enacted by the Senate and House of Representatives of the State and local United States of America in Congress assembled, governments.

TITLE I-LOW-LEVEL RADIOACTIVE WASTE POLICY AMENDMENTS ACT OF 1985

SEC. 101. SHORT TITLE.

This Title may be cited as the "Low-Level Radioactive Waste Policy Amendments Act of 1985".

SEC. 102. AMENDMENT TO THE LOW-LEVEL RADIOACTIVE WASTE POLICY ACT.

The Low-Level Radioactive Waste Policy Act (42 U.S.C. 2021b et seq.) is amended by striking out sections 1, 2, 3, and 4 and inserting in lieu thereof the following:

"SECTION 1. SHORT TITLE.

"This Act may be cited as the 'Low-Level Radioactive Waste Policy Act'.

"SEC. 2. DEFINITIONS.

"For purposes of this Act:

"(1) AGREEMENT STATE.—The term 'agreement State' means a State that—

"(A) has entered into an agreement with the Nuclear Regulatory Commission under section 274 of, the Atomic Energy Act of 1954 (42 U.S.C. 2021); and

"(B) has authority to regulate the disposal of low-level radioactive waste under such agreement.

"(2) ALLOCATION.—The term 'allocation' means the assignment of a specific amount of low-level radioactive waste disposal capacity to a commercial nuclear power reactor for which access is required to be provided by sited States subject to the conditions specified under this Act.

"(3) COMMERCIAL, NUCLEAR POWER REACTOR.—The term 'commercial nuclear power reactor' means any unit of a civilian light-water moderated utilization facility required to be licensed under section 103 or 104b. of the Atomic Energy Act of 1954 (42 U.S.C.-2133 or 2134(b)).

"(4) COMPACT.—The term 'compact' means a compact entered into by two or more States pursuant to this Act.

"(5) COMPACT COMMISSION.—The term 'compact commission' means the regional commission, committee, or board established in a compact to administer such compact.

"(6) COMPACT REGION.—The term 'compact region' means the area consisting of all States that are members of a compact.

"(7) DISPOSAL.—The term 'disposal' means the permanent isolation of low-level radioactive waste pursuant to the requirements established by the Nuclear Regulatory Commission wader applicable laws, or by an agreement State if such isolation occurs in such agreement State.

"(8) GENERATE.—The term 'generate', when used in relation to low-level radioactive waste, means to produce low-level radioactive waste.

"(9) LOW-LEVEL RADIOACTIVE WASTE.—The term 'low-level radioactive waste' means radioactive material that—

"(A) is not high-level radioactive waste, spent nuclear fuel, or byproduct material (as defined in section 11e.(2) of the Atomic Energy Act of 1954 (42 U.S.C. 2014(eX2))); and

"(B) the Nuclear Regulatory Commission, consistent with existing law and in accordance with paragraph (A), classifies as low-level radioactive waste.

"(10) NON-SITED COMPACT REGION.—The term 'non-sited compact region' means any compact region that is not a sited compact region.

"(11) REGIONAL. DISPOSAL FACILITY.—The term 'regional disposal facility' means a non-Federal low-level radioactive waste disposal facility in operation on January 1, 1985, or subsequently established and operated under a compact.

"(12) SECRETARY.—The term 'Secretary' means the Secretary of Energy.

"(13) SITED COMPACT REGION.—The term 'sited compact region' South Carolina means a compact region in which there is located one of the Washington. regional disposal facilities at Barnwell, in the State of South Nevada. Carolina; Richland, in the State of Washington; or Beatty, in the State of Nevada.

"(14) STATE.-The term 'State' means any State of the United States, the District of Columbia, and the Commonwealth of Puerto Rico.

"SEC. 3. RESPONSIBILITIES FOR DISPOSAL OF LOW-LEVEL RADIOACTIVE 42 USC 2021c. WASTE.

"SECTION 3(a)(1) STATE RESPONSIBILITIES.— Each State shall be responsible for providing, either by itself or in cooperation with other States, for the disposal of—

"(A) low-level radioactive waste generated within the State (other than by the Federal Government) that consists of or contains class A, B, or C radioactive waste as defiled by section 61.55 of title 10, Code of Federal Regulations, as in effect on January 26, 1983;

"(B) low-level radioactive waste described in subparagraph (A) Vessels. that is generated by the Federal Government except such waste that is—

"(i) owned or generated by the Department of Energy;

"(ii) owned or generated by the United States Navy as a result of the decommissioning of vessels of the United States Navy; or

"(iii) owned or generated as a result of any research, development, testing, or production of any atomic weapon; and

"(C) low-level radioactive waste described in subparagraphs (A) and (B) that is generated outside of the State and accepted for disposal in accordance with sections 5 or 6.

"(2) No regional disposal facility may be required to accept for disposal any material—

"(A) that is not low-level radioactive waste as defined by section 61.55 of title 10, Code of Federal Regulations, as in effect on January 26, 1983, or

"(B) identified under the Formerly Utilized Sites Remedial Action Program.

Nothing in this paragraph shall be deemed to prohibit a State, subject to the provisions of its compact, or a compact region from accepting for disposal any material identified in subparagraph (A) or (B).

"(b)(1) The Federal Government shall be responsible for the disposal of—

"(A) low-level radioactive waste owned or generated by the Department of Energy;

"(B) low-level radioactive waste owned or generated by the United States Navy as a result of the decommissioning of vessels of the United States Navy;

"(C) low-level radioactive waste owned or generated by the Federal Government as a result of any research, development, testing, or production of any atomic weapon; and

"(D) any other low-level radioactive waste with concentrations of radionuclides that exceed the limits established by the Commission for class C radioactive waste, as defined by section 61.55 of title 10, Code of Federal Regulations, as in effect on January 26, 1983.

"(2) All radioactive waste designated a Federal responsibility pursuant to subparagraph (b)(1)(D) that results from activities licensed by the Nuclear Regulatory Commission under the Atomic Energy Act of 1954, as amended, shall be disposed of in a facility licensed by the Nuclear Regulatory Commission that the Commission determines is adequate to protect the public health and safety.

"(3) Not later than 12 months after the date of enactment of this Act, the Secretary shall submit to the Congress a comprehensive report setting forth the recommendations of the Secretary for ensuring the safe disposal of all radioactive waste designated a Federal responsibility pursuant to subparagraph (bX1XD). Such report shall include-

"(A) an identification of the radioactive waste involved, including the source of such waste, and the volume, concentration, and other relevant characteristics of such waste;

"(B) an identification of the Federal and non-Federal options for disposal of such radioactive waste;

"(C) a description of the actions proposed to ensure the safe disposal of such radioactive waste;

"(D) a description of the projected costs of undertaking such actions;

"(E) an identification of the options for ensuring that the beneficiaries of the activities resulting in the generation of such radioactive wastes bear all reasonable costs of disposing of such wastes; and

"(F) an identification of any statutory authority required for disposal of such waste.

"(4) The Secretary may not dispose of any radioactive waste designated a Federal responsibility pursuant to paragraph (b)(1)(D) that becomes a Federal responsibility for the first time pursuant to such paragraph until ninety days after the report prepared pursuant to paragraph (3) has been submitted to the Congress.

"SEC. 4. REGIONAL COMPACTS FOR DISPOSAL OF LOW-LEVEL RADIOACTIVE WASTE.

"(a) IN GENERAL.—

"(1) FEDERAL POLICY.-It is the policy of the Federal Government that the responsibilities of the States under section 3 for the disposal of low-level radioactive waste can be most safely and effectively managed on a regional basis.

"(2) INTERSTATE COMPACTS.-To carry out the policy set forth in paragraph (1), the States may enter into such compacts as may be necessary to provide for the establishment and operation of regional disposal facilities for low-level radioactive waste.

"(b) APPLICABILITY TO FEDERAL ACTIVITIES.—

"(1) IN GENERAL.—

"(A) ACTIVITIES OF THE SECRETARY.—Except as provided in subparagraph (B), no compact or action taken under a compact shall be applicable to the transportation, management, or disposal of any low-level radioactive waste designated in section 3(a)(1)(B) (i)-(iii).

"(B) FEDERAL LOW-LEVEL RADIOACTIVE WASTE DISPOSED OF AT NON-FEDERAL FACILITIES.—Low-level radioactive waste owned or generated by the Federal Government that is disposed of at a regional disposal facility or non-Federal disposal facil-

ity within a State that is not a member of a compact shall be subject to the same conditions, regulations, requirements, fees, taxes, and surcharges imposed by the compact commission, and by the State in which such facility is located, in the same manner and to the same extent as any low-level radioactive waste not generated by the Federal Government.

"(2) FEDERAL LOW-LEVEL RADIOACTIVE WASTE DISPOSAL FACILITIES.—Any low-level radioactive waste disposal facility established or operated exclusively for the disposal of low-level radioactive waste owned or generated by the Federal Government shall not be subject to any compact or any action taken under a compact.

"(3) EFFECT OF COMPACTS ON FEDERAL LAW.—Nothing contained in this Act or any compact may be construed to confer any new authority on any compact commission or State—

"(A) to regulate the packaging, generation, treatment, storage, disposal, or transportation of low-level radioactive waste in a manner incompatible with the regulations of the Nuclear Regulatory Commission or inconsistent with the regulations of the Department of Transportation;

"(B) to regulate health, safety, or environmental hazards from source material, byproduct material, or special nuclear material;

"(C) to inspect the facilities of licensees of the Nuclear Regulatory Commission;

"(D) to inspect security areas or operations at the site of the generation of any low-level radioactive waste by the Federal Government, or to inspect classified information related to such areas or operations; or

"(E) to require indemnification pursuant to the provisions of chapter 171 of title 28, United States Code (commonly referred to as the Federal Tort Claims Act), or section 170 of the Atomic Energy Act of 1954 (42 U.S.C. 2210) (commonly referred to as the Price-Anderson Act), whichever is applicable

"(4) FEDERAL AUTHORITY.—Except as expressly provided in this Act, nothing contained in this Act or any compact may be construed to limit the applicability of any Federal law or to diminish or otherwise impair the jurisdiction of any Federal agency, or to alter, amend, or otherwise affect any Federal law governing the judicial review of any action taken pursuant to any compact.

"(5) STATE AUTHORITY PRESERVED.-Except as expressly provided in this Act, nothing contained in this Act expands, diminishes, or otherwise affects State law.

"(c) RESTRICTED USE OF REGIONAL DISPOSAL FACILITIES.—Any authority in a compact to restrict the use of the regional disposal facilities under the compact to the disposal of low-level radioactive waste generated within the compact region shall not take effect before each of the following occurs:

"(1) January 1, 1986; and

"(2) the Congress by law consents to the compact.

"(d) CONGRESSIONAL REVIEW.—Each compact shall provide that every 5 years after the compact has taken effect the Congress may by law withdraw its consent

"SEC. 5. LIMITED AVAILABILITY OF CERTAIN REGIONAL DISPOSAL FACILITIES DURING TRANSITION AND LICENSING PERIODS.

"(a) AVAILABILITY OF DISPOSAL CAPACITY.—

"(1) PRESSURIZED-WATER AND BOILING WATER REACTORS.—During. the seven-year period beginning January 1, 1986 and ending December 31, 1992, subject to the provisions of subsections (b) through (g), each State in which there is located a regional disposal facility referred toparagraphs (1) through (3) of subsection (b) shall make disposal capacity available for low-level radioactive waste generated by pressurized water and boiling water commercial nuclear power reactors in accordance with the allocations established in subsection (c).

"(2) OTHER SOURCES OF LOW-LEVEL RADIOACTIVE WASTE.—During the seven-year period beginning January 1, 1986 and ending December 31, 1992, subject to the provisions of subsections (b) through (g), each State in which there is located a regional disposal facility referred to in paragraphs (1) through (3) of subsection (b) shall make disposal capacity available for low-level radioactive waste generated by any source not referred to in paragraph (1).

"(3) ALLOCATION OF DISPOSAL CAPACITY.—

"(A) During the seven-year period beginning January 1, 1986 and ending December 31, 1992, low-level radioactive waste generated within a sited compact region shall be accorded priority under this section in the allocation of available disposal capacity at a regional disposal facility referred to in paragraphs (1) through (3) of subsection (b) and located in the sited compact region in which such waste is generated.

"(B) Any State in which a regional disposal facility referred to in paragraphs (1) through (3) of subsection (b) is located may, subject to the provisions' of its compact, prohibit the disposal at such facility of low-level radioactive waste generated outside of the compact region if the disposal of such waste in any given calendar year, together with all other low-level radioactive waste disposed of at such facility within that same calendar year, would result in that facility disposing of a total annual volume of low-level radioactive waste in excess of 100 per centum of the average annual volume for such facility designated in subsection (b): Provided, however, That in the event that all three States, in which regional disposal facilities referred to in paragraphs (1) through (3) of subsection (b) act to prohibit the disposal of low-level radioactive waste pursuant to this subparagraph, each such State shall, in accordance with any applicable procedures of its compact, permit, as necessary, the disposal of additional quantities of such waste in increments of 10 per centum of the average annual volume for each such facility designated in subsection (b).

"(C) Nothing in this paragraph shall require any disposal facility or State referred to in paragraphs (1) through (3) of subsection (b) to accept for disposal low-level radioactive waste in excess of the total amounts designated in subsection (b).

"(4) CESSATION OF OPERATION OF LOW-LEVEL RADIOACTIVE WASTE DISPOSAL FACILITY.—No provision of this section shall be construed to obligate any State referred to in paragraphs (1) through (3) of subsection (b) to accept low-level radioactive waste from any source in the event that the regional disposal facility located in such State ceases operations.

"(b) LIMITATIONS.—The availability of disposal capacity for low-level radioactive waste from any source shall be subject to the following limitations:

"(1) BARNWELL, SOUTH CAROLINA.—The State of South Carolina, in accordance with the provisions of its compact, may limit the volume of low-level radioactive waste accepted for disposal at the regional disposal facility located at Barnwell, South Carolina to a total of 8,400,000 cubic feet of low-level radioactive waste during the 7-year period beginning January 1, 1986, and ending December 31, 1992 (as based on an average annual volume of 1,200,000 cubic feet of low-level radioactive waste).

"(2) RICHLAND, WASHINGTON.—The State of Washington, in accordance with the provisions of its compact, may limit the volume of low-level radioactive waste accepted for disposal at the regional disposal facility located at Richland, Washington to a total of 9,800,000 cubic feet of low-level radioactive waste during the 7-year period beginning January 1, 1986, and ending December 31, 1992 (as based on an average annual volume of 1,400,000 cubic feet of low-level radioactive waste).

"(3) BEATTY, NEVADA.-The State of Nevada, in accordance with the provisions of its compact, may limit the volume of low-level radioactive waste accepted for disposal at the regional disposal facility located at Beatty, Nevada to a total of 1,400,000 cubic feet of low-level radioactive waste during the 7-year period beginning January 1, 1986, and ending December 31, 1992 (as based on an average annual volume of 200,000 cubic feet of low-level radioactive waste).

"(c) COMMERCIAL NUCLEAR. POWER REACTOR ALLOCATIONS.—

"(1) AMOUNT.—Subject to the provisions of subsections (a) through (g) each commercial nuclear power reactor shall upon request receive an allocation of low-level radioactive waste disposal capacity (in cubic feet) at the facilities referred to in subsection (b) during the 4-year transition period beginning January 1, 1986, and ending December 31, 1989, and during the 3-year licensing period beginning January 1, 1990, and ending December 31, 1992, in an amount calculated by multiplying the appropriate number from the following table by the number of months remaining in the applicable period as determined under paragraph (2).

	4-year Transition Period		3-year Licensing Period	
"Reactor Type	In Sited Region	All Other Locations	In Sited Region	All Other Locations
PWR	1027	871	934	685
BWR	2309	1951	2091	1533

"(2) METHOD OF CALCULATION.—For purposes of calculating the aggregate amount of disposal capacity available to a commercial nuclear power reactor under this subsection, the number of months shall be computed beginning with the first month of the applicable period, or the sixteenth month after receipt of a full power operating license, whichever occurs later.

"(3) UNUSED ALLOCATIONS.—Any unused allocation under paragraph (1) received by a reactor during the transition period or the licensing period may be used at any time after such reactor receives

its full power license or after the beginning of the pertinent period, whichever is later, but not La any event after December 31, 1992, or after commencement of operation of a regional disposal facility in the compact region or State in which such reactor is located, whichever occurs first.

"(4) TRANSFERABILITY.—Any commercial nuclear power reactor in a State or compact region that is in compliance with the requirements of subsection (e) may assign any disposal capacity allocated to it under this subsection to any other person in each State or compact region. Such assignment may be for valuable consideration and shall be in writing, copies of which shall be filed at the affected compact commissions and States, along with the assignor's unconditional written waiver of the disposal capacity being assigned.

"(5) UNUSUAL VOLUMES.—

"(A). The Secretary may, upon petition by the owner or operator of any commercial nuclear power reactor, allocate to such reactor disposal capacity in excess of the amount calculated under paragraph (1) if the Secretary finds and states in writing his reasons for so finding that making additional capacity available for such reactor through this paragraph is required to permit unusual or unexpected operating, maintenance, repair or safety activities.

"(B) The Secretary may not make allocations pursuant to subparagraph (A) that would result in the acceptance for disposal of more than 800,000 cubic feet of low-level radioactive waste or would result in the total of the allocations made pursuant to this subsection exceeding 11,900,000 cubic feet over the entire seven-year interim access period.

"(6) LIMITATION.—During the seven-year interim access period referred to in subsection (a), the disposal facilities referred to in subsection (b) shall not be required to accept more than 11,900,000 cubic feet of low-level radioactive waste generated by commercial nuclear power reactors.

"(d)(1) SURCHARGES.—The disposal of any low-level radioactive waste under this section (other than low-level radioactive waste generated in a sited compact region) may be charged a surcharge by the State in which the applicable regional dis facility is located, in addition to the fees and surcharges generally applicable for disposal of low-level radioactive waste in the regional disposal facility involved. Except as provided in subsection (e)(2), such surcharges shall not exceed—

"(A) in 1986 and 1987, $10 per cubic foot of low-level radioactive waste;

"(B) in 1988 and 1989, $20 per cubic foot of low-level radioactive waste; and

"(C) in 1990, 1991, and 1992, $40 per cubic foot of low-level radioactive waste.

"(2) MILESTONE INCENTIVES.—

"(A) ESCROW ACCOUNT.—Twenty-five per centum of all surcharge fees received by a State pursuant to paragraph (1) during the seven-year period referred to in subsection (a) shall be transferred on a monthly basis to an escrow account held by the Secretary. The Secretary shall deposit all funds received in a special escrow account. The funds so deposited shall not be the property of the United States. The Secretary shall act as trustee for such funds and shall invest them in interest-bearing United States

Government Securities with the highest available yield. Such funds shall be held by the Secretary until-

"(i) paid or repaid in accordance with subparagraph (B) or (C); or

"(ii) paid to the State collecting such fees in accordance with subparagraph (F).

"(B) PAYMENTS.—

"(i) JULY 1, 1986.-The twenty-five per centum of any amount collected by a State under paragraph (1) for low-level radioactive waste disposed of under this section during the period beginning on the date of enactment of the Low-Level Radioactive Waste Policy Amendments Act of 1985 and ending June 30, 1986, and transferred to the Secretary under subparagraph (A), shall be paid by the Secretary in accordance with subparagraph (D)- if the milestone described in subsection (e)(1)(A) is met by the State in which such waste originated.

"(ii) JANUARY 1, 1988.-The twenty-five per centum of any amount collected by a State under paragraph (1) for low-level radioactive waste disposed of under this section during the period beginning July 1, 1986 and ending December 31, 1987, and transferred to the Secretary under subparagraph (A), shall be paid by the Secretary in accordance with subparagraph (D) if the milestone described in subsection (e)(1)(B) is met by the State in which such waste originated (or its compact region, where applicable).

"(iii) JANUARY 1, 1990.-The twenty-five per centum of any amount collected by a State under paragraph (1) for low-level radioactive waste disposed of under this section during the period beginning

January 1, 1988 and ending December 31, 1989, and transferred to the Secretary under subparagraph (A), shall be paid by the Secretary in accordance with subparagraph a if the milestone described in subsection (e)(1)(C) is met by the State in which such waste originated (or its compact region, where applicable).

"(iv) The twenty-five per centum of any amount collected by a State under paragraph (1) for low-level radioactive waste disposed of under this section during the period beginning January 1, 1990 and ending December 31, 1992, and transferred to the Secretary under subparagrah (A), shall be paid by the Secretary in accordance with subparagraph (D) if, by January 1, 1993, the State in which such waste originated (or its compact region, where applicable) is able to provide for the disposal of all low-level radioactive waste generated within such State or compact region.

"(C) FAILURE TO MEET JANUARY 1, 1993 DEADLINE.—If, by January 1, 1993, a State (or, where applicable, a compact region) in which low-level radioactive waste is generated is unable to provide for the disposal of all such waste generated within such State or compact region—

"(i) each State in which such waste is generated, upon the request of the generator or owner of the waste, shall take title to the waste, shall be obligated to take possession of the waste, and shall be liable for all damages directly or indirectly incurred by such generator or owner as a consequence of the failure of the State to take po ion of the waste as soon after January 1, 1993 as the generator or owner notifies the State that the waste is available for shipment; or

"(ii) if such State elects not to take title to, take possession of, and assume liability for such waste, pursuant to clause (i), twenty-five per centum of any amount collected by a State under paragraph (1) for low-level radioactive waste disposed of under this section during the period beginning January 1, 1990 and ending December 31, 1992 shall be repaid, with interest, to each generator from whom such surcharge was collected. Repayments made pursuant to this clause shall be made on a monthly basis, with the first such repayment beginning on February 1, 1993, in an amount equal to one thirty-sixth of the total amount required to be repaid pursuant to this clause, and shall continue until the State (or, where applicable, compact region) in which such low-level radioactive waste is generated is able to provide for the disposal of all such waste generated within such State or compact region or until January 1, 1996, whichever is earlier.

If a State in which low-level radioactive waste is generated elects to take title to, take possession of, and assume liability for such waste pursuant to clause (i), such State shall be paid such amounts as are designated in subparagraph (B)(iv). If a State (or, where applicable, a compact region) in which low-level radioactive waste is generated provides for the disposal of such waste at any time after January 1, 1993 and prior to January 1, 1996, such State (or, where applicable, compact region) shall be paid in accordance with subparagraph (D) a lump sum amount equal to twenty-five per centum of any amount collected by a State under paragraph (1): Provided, however, That such payment shall be adjusted to reflect the remaining number of months between January 1, 1993 and January 1, 1996 for which such State (or, where applicable, compact region) provides for

the disposal of such waste. If a State (or, where applicable, a compact region) in which low-level radioactive waste is generated is unable to provide for the disposal of all such waste generated within such State or compact region by January 1, 1996, each State in which such waste is generated, upon the request of the generator or owner of the waste, shall take title to the waste, be obligated to take possession of the waste, and shall be liable for all damages directly or indirectly incurred by such generator or owner as a consequence of the failure of the State to take possession of the waste as soon after January 1, 1996, as the generator or owner notifies the State that the waste is available for shipment.

"(D) RECIPIENTS OF PAYMENTS.—The payments described in subparagraphs (B) and (C) shall be paid within thirty days after the applicable date—

"(i) if the State in which such waste originated is not a member of a compact region, to such State;

"(ii) if the State in which such waste originated is a member of the compact region, to the compact commission serving such State.

"(E) USES OF PAYMENTS.—

"(i) LIMITATIONS.—Any amount paid under subparagraphs (B) or (C) may only be used to—

"(I) establish low-level radioactive waste disposal facilities;

"(II) mitigate the impact of low-level radioactive waste disposal facilities on the host State;

"(III) regulate low-level radioactive waste disposal facilities; or

"(IV) ensure the decommissioning, closure, and care during the period of institutional control of low-level radioactive waste disposal facilities.

"(ii) REPORTS.—

"(I) RECIPIENT.—Any State or compact commission receiving a payment under subparagraphs (B) or (C) shall, on December 31 of each year in which any such funds are expended, submit a report to the Department of Energy itemizing any such expenditures.

"(II) DEPARTMENT OF ENERGY.—Not later than six months after receiving the reports under subclause (I), the Secretary shall submit to the Congress a summary of all such reports that shall include an assessment of the compliance of each such State or compact commission with the requirements of clause (1).

"(F) PAYMENT TO STATES.—Any amount collected by a State under paragraph (1) that is placed in escrow under subparagraph (A) and not paid to a State or compact commission under subparagraphs (B) and (C) or not repaid to a generator under subparagraph (C) shall be paid from such escrow account to such State collecting such payment under paragraph (1). Such payment shall be made not later than 30 days after a determination of ineligibility for a refund is made.

"(G) PENALTY SURCHARGES.—No rebate shall be made under this subsection of any surcharge or penalty surcharge paid during a period of noncompliance with subsection (e)(1).

"(e) REQUIREMENTS FOR ACCESS TO REGIONAL DISPOSAL FACILITIES.—

"(1) REQUIREMENTS FOR NON-SITED COMPACT REGIONS AND NON-MEMBER STATES.—Each non-sited compact region, or State that is not a member of a compact region that does not have an operating disposal facility, shall comply with the following requirements:

"(A) By July 1, 1986, each such non-member State shall ratify compact legislation or, by the enactment of legislation or the certification of the Governor, indicate its intent to develop a site for the location of a low-level radioactive waste disposal facility within such State.

"(B) BY JANUARY 1, 1988.—

"(i) each non-sited compact region shall identify the State in which its low-level radioactive waste disposal facility is to be located, or shall have selected the developer for such facility and the site to be developed, and each compact region or the State in which its low-level radioactive waste disposal facility is to be located shall develop a siting plan for such facility providing detailed procedures and a schedule for establishing a facility location and preparing a facility license application and shall delegate authority to implement such plan;

"(ii) each non-member State shall develop a siting plan providing detailed procedures and a schedule for establishing a facility location and preparing a facility license application for a low-level radioactive waste disposal facility and shall delegate authority to implement such plan; and

"(iii) The siting plan required pursuant to this paragraph shall include a description of the optimum way to attain operation of the low-level radioactive waste disposal facility involved, within the

time period specified in this Act. Such plan shall include a description of the objectives and a sequence of deadlines for all entities required to take action to implement such plan, including, to the extent practicable, an identification of the activities in which a delay in the start, or completion, of such activities will cause a delay in beginning facility operation. Such plan shall also identify, to the extent practicable, the process for (1) screening for broad siting areas; (2) identifying and evaluating specific candidate sites; and (3) characterizing the preferred site(s), completing all necessary environmental assessments, and preparing a license application for submission to the Nuclear Regulatory Commission or an Agreement State.

"(C) BY JANUARY 1, 1990.—

"(i) a complete application (as determined by the Nuclear Regulatory Commission or the appropriate agency of an agreement State) shall be filed for a license to operate a low-level radioactive waste disposal facility within each non-sited compact region or within each non-member State; or

"(ii) the Governor (or, for any State without a Governor, the chief executive officer) of any State that is not a member of a compact region in compliance with clause (i), or has not complied with such clause by its own actions, shall provide a written certification to the Nuclear Regulatory Commission, that such State will be capable of providing for, and will provide for, the storage, disposal, or management of any low-level radioactive waste generated within such State and requiring disposal after December 31, 1992, and include a description of the actions that will be taken to ensure that such capacity exists.

"(D) By January 1, 1992, a complete application (as determined by the Nuclear Regulatory Commission or the appropriate agency of an agreement State) shall be filed for a license to operate a low-level radioactive waste disposal facility within each non-sited compact region or within each non-member State.

(E) The Nuclear Regulatory Commission shall transmit any certification received under subparagraph (C) to the Congress and publish any such certification in the Federal Register.

(F) Any State may, subject to all applicable provisions, if any, of any applicable compact, enter into an agreement with the compact commission of a region in which a regional disposal facility is located to provide for the disposal of all low-level radioactive waste generated within such State, and, by virtue of such agreement, may, with the approval of the State in which the regional disposal facility is located, be deemed to be in compliance with subparagraphs (A), (B), (C), and (D).

"(2) PENALTIES FOR FAILURE TO COMPLY.—

"(A) BY JULY 1, 1986,—If any State fails to comply with subparagraph (1)(A)—

"(i) any generator of low-level radioactive waste within such region or non-member State shall, for the period beginning July 1, 1986, and ending December 31, 1986, be charged 2 times the surcharge otherwise applicable under subsection (d); and

"(ii) on or after January 1, 1987, any low-level radio-active waste generated within such region or non-member State may be denied access to the regional disposal facilities referred to in paragraphs (1) through (3) of subsection (b).

"(B) BY JANUARY 1, 1988.—If any non-sited compact region or non-member State fails to comply with paragraph (1)(B)—

"(i) any generator of low-level radioactive waste within such region or non-member State shall—

"(I) for the period beginning January 1, 1988, and ending June 30, 1988, be charged 2 times the surcharge otherwise applicable under subsection (d); and

"(II) for the period beginning July 1, 1988, and ending December 31, 1988, be charged 4 times the surcharge otherwise applicable under subsection (d); and

"(ii) on or after January 1, 1989, any low-level radio-active waste generated within such region or non-member State may be denied access to the regional disposal facilities referred to in paragraphs (1) through (3) of subsection (b).

"(C) BY JANUARY 1, 1990.—If any non-sited compact region or non-member State fails to comply with paragraph (1XC), any low-level radioactive waste generated within such region or non-member State may be denied access to the regional disposal facilities referred to in paragraphs (1) through (3) of subsection (b).

"(D) BY JANUARY 1, 1992.—If any non-sited compact region or non-member State fails to comply with paragraph (1)(D), any generator of low-level radioactive waste within such region or non-member State shall, for the period beginning January 1, 1992 and ending upon the filing of the application described in paragraph (1)(D), be charged 3 times the surcharge otherwise applicable under subsection (d).

"(3) DENIAL OF ACCESS.—No denial or suspension of access to a regional disposal facility under paragraph (2) may be based on the source, class, or type of low-level radioactive waste.

"(4) RESTORATION OF SUSPENDED ACCESS; PENALTIES FOR FAILURE TO COMPLY.-Any access to a regional disposal facility that is suspended under paragraph (2) shall be restored after the non-sited compact region or non-member State involved complies with such requirement. Any payment of surcharge penalties pursuant to paragraph (2) for failure to comply with the requirements of subsection (e) shall be terminated after the non-sited compact region or non-member State involved complies with such Tequirements.

"(f)(1) ADMINISTRATION.—Each State and compact commission in which a regional disposal facility referred to in paragraphs (1) through (3) of subsection (b) is located shall have authority—

"(A) to monitor compliance with the limitations, allocations, and requirements established in this section; and

"(B) to deny access to any non-Federal low-level radioactive waste disposal facilities within its borders to any low-level radioactive waste that-

"(i) is in excess of the limitations or allocations established in this section; or

"(ii) is not required to be accepted due to the failure of a compact region or State to comply with the requirements of subsection (e)(1).

"(2) AVAILABILITY OF INFORMATION DURING INTERIM ACCESS PERIOD.—

"(A) The States of South Carolina, Washington, and Nevada may require information from disposal facility operators, generators, intermediate handlers, and the Department of Energy that is reasonably necessary to monitor the availability of disposal capacity, the use and assignment of allocations and the applicability of surcharges.

"(B) The States of South Carolina, Washington, and Nevada may, after written notice followed by a period of at least 30 days, deny access to disposal capacity to any generator or intermediate handler who fails to provide information under subparagraph (A).

"(C) PROPRIETARY INFORMATION.—

"(i) Trade secrets, proprietary and other confidential information shall be made available to a State under this subsection upon request only if such State—

"(I) consents in writing to restrict the dissemination of the information to those who are directly involved in monitoring under subparagraph (A) and who have a need to know;

"(II) accepts liability for wrongful disclosure; and

"(III) demonstrates that such information is essential to such monitoring.

"(ii) The United States shall not be liable for the wrongful disclosure by any individual or State of any information provided to such individual or State under this subsection.

"(iii) Whenever any individual or State has obtained possession of information under this subsection, the individual shall be subject to the same pro-

visions of law with respect to the disclosure of such information as would apply to an officer or employee of the United States or of any department or agency thereof and the State shall be subject to the same provisions of law with respect to the disclosure of such information as would apply to the United States or any department or agency thereof. No State or State officer or employee who receives trade secrets, proprietary information, or other confidential information under this Act may be required to disclose such information under State law.

"(g) NONDISCRIMINATION.—Except as provided in subsections (b) through (e), low-level radioactive waste disposed of under this section shall be subject without discrimination to all applicable legal requirements of the compact region and State in which the disposal facility is located as if such low-level radioactive waste were generated within such compact region.

"SEC. 6. EMERGENCY ACCESS.

"(a) IN GENERAL.—The Nuclear Regulatory Commission may grant emergency access to any regional disposal facility or non-Federal disposal facility within a State that is not a member of a compact for specific low-level radioactive waste, if necessary to eliminate an immediate and serious threat to the public health and safety or the common defense and security. The procedure for granting emergency access shall be as provided in this section.

"(b) REQUEST FOR EMERGENCY ACCESS.—Any generator of low-level radioactive waste, or any Governor (or, for any State without a Governor, the chief executive officer of the State) on behalf of any generator or generators located in his or her State, may re-

quest that the Nuclear Regulatory Commission grant emergency access to a regional disposal facility or a non-Federal disposal facility within a State that is not a member of a compact for specific low-level radioactive waste. Any such request shall contain any information and certifications the Nuclear Regulatory Commission may require.

"(c) DETERMINATION OF NUCLEAR REGULATORY COMMISSION.—

"(1) REQUIRED DETERMINATION.—Not later than 45 days after receiving a request under subsection (b), the Nuclear Regulatory Commission shall determine whether—

"(A) emergency access is necessary because of an immediate and serious threat to the public health and safety or the common defense and security; and

"(B) the threat cannot be mitigated by any alternative consistent with the public health and safety, including storage of low-level radioactive waste at the site of generation or in a storage facility obtaining access to a disposal facility by voluntary agreement, purchasing disposal capacity available for assignment pursuant to section 5(c) or ceasing activities that generate low-level radioactive waste.

"(2) REQUIRED NOTIFICATION.-If the Nuclear Regulatory Commission makes the determinations required in paragraph (1) in the affirmative, it shall designate an appropriate non-Federal disposal facility or facilities, and notify the Governor (or chief executive officer) of the State in which such facility is located and the appropriate compact commission that emergency access is required. Such notification shall specifically describe the low-level radioactive waste

as to source, physical and radiological characteristics, and the minimum volume and duration, not exceeding 180 days, necessary to alleviate the immediate threat to public health and safety or the common defense and security. The Nuclear Regulatory Commission shall also notify the Governor (or chief executive officer) of the State in which the low-level radioactive waste requiring emergency access was generated that emergency access has been granted and that, pursuant to subsection (e), no extension of emergency access may be granted absent diligent State action during the period of the initial grant.

"(d) TEMPORARY EMERGENCY ACCESS.—Upon determining that emergency access is necessary because of an immediate and serious threat to the public health and safety or the common defense and security, the Nuclear Regulatory Commission may at its discretion grant temporary emergency access, pending its determination whether the threat could be mitigated by any alternative consistent with the public health and safety. In granting access under this subsection, the Nuclear Regulatory Commission shall provide the same notification and information required under subsection (c). Absent a determination that no alternative consistent with the public health and safety would mitigate the threat, access granted under this subsection shall expire 45 days after the granting of temporary emergency access under this subsection.

"(e) EXTENSION OF EMERGENCY ACCESS.-The Nuclear Regulatory Commission may grant one extension of emergency access beyond the period provided in subsection (c), if it determines that emergency access continues to be necessary because of an immediate and serious threat to the public health

and safety or the common defense and security that cannot be mitigated by any alternative consistent with the public health and safety, and that the generator of low-level radioactive waste granted emergency access and the State in which such low-level radioactive waste was generated have diligently though unsuccessfully acted during the period of the initial grant to eliminate the need for emergency access. Any extension granted under this subsection shall be for the minimum volume and duration the Nuclear Regulatory Commission finds necessary to eliminate the immediate threat to public health and safety or the common defense and security, and shall not in any event exceed 180 days.

"(f) RECIPROCAL ACCESS.-Any compact region or State not a member of a compact that provides emergency access to non-Federal disposal facilities within its borders shall be entitled to reciprocal access to any subsequently operating non-Federal disposal facility that serves the State or compact region in which low-level radioactive waste granted emergency access was generated. The compact commission or State having authority to approve importation of low-level radioactive waste to the disposal facility to which emergency access was granted shall designate for reciprocal access an equal volume of low-level radioactive waste having similar characteristics to that provided emergency access.

"(g) APPROVAL BY COMPACT COMMISSION.—Any grant of access under this section shall be submitted to the compact commission for the region in which the designated disposal facility is located for such approval as may be required under the terms of its compact. Any such compact commission shall act to approve emergency access not later than 15 days af-

ter receiving notification from the Nuclear Regulatory Commission, or reciprocal access not later than 15 days after receiving notification from the appropriate authority under subsection (f).

"(h) LIMITATIONS.—No State shall be required to provide emergency or reciprocal access to any regional disposal facility within its borders for low-level radioactive waste not meeting criteria established by the license or license agreement of such facility, or in excess of the approved capacity of such facility, or to delay the closing of any such facility pursuant to plans established before receiving a request for emergency or reciprocal access. No State shall, during any 12-month period, be required to provide emergency or reciprocal access to any regional disposal facility within its borders for more than 20 percent of the total volume of low-level radioactive waste accepted for disposal at such facility during the previous calendar year.

"(i) VOLUME REDUCTION AND SURCHARGES.-Any low-level radioactive waste delivered for disposal under this section shall be reduced in volume to the maximum extent practicable and shall be subject to surcharges established in this Act.

"(j) DEDUCTION FROM ALLOCATION.—Any volume of low-level radioactive waste granted emergency or reciprocal access under this section, if generated by any commercial nuclear power reactor, shall be deducted from the low-level radioactive waste volume allocable under section 5(c).

"(k) AGREEMENT STATES.—Any agreement under section 274 of the Atomic Energy Act of 1954 (42 U.S.C. 2021) shall not be applicable to the determinations of the Nuclear Regulatory Commission under this section.

"SEC. 7. RESPONSIBILITIES OF THE DEPARTMENT OF ENERGY.

"(a) FINANCIAL AND TECHNICAL ASSISTANCE.—The Secretary shall, to the extent provided in appropriations Act, provide to those compact regions, host States, and nonmember States determined by the Secretary to require assistance for purposes of carrying out this Act—

"(1) continuing technical assistance to assist them in fulfilling their responsibilities under this Act. Such technical assistance shall include, but not be limited to, technical guidelines for site selection, alternative technologies for low-level radioactive waste disposal, volume reduction options, management techniques to reduce low-level waste generation, transportation practices for shipment of low-level wastes, health and safety considerations in the storage, shipment and disposal of low-level radioactive wastes, and establishment of a computerized database to monitor the management of low-level radioactive wastes; and

"(2) through the end of fiscal year 1993, financial assistance to assist them in fulfilling their responsibilities under this Act.

"(b) REPORTS.—The Secretary shall prepare and submit to the Congress on an annual basis a report which (1) summarizes the progress of low-level waste disposal siting and licensing activities within each compact region, (2) reviews the available volume reduction technologies, their applications, effectiveness, and costs on a per unit volume basis, (3) reviews interim storage facility requirements, costs, and usage, (4) summarizes transportation requirements for such wastes on an inter- and intra-regional basis, (5)

summarizes the data on the total amount of low-level waste shipped for disposal on a yearly basis, the proportion of such wastes subjected to volume reduction, the average volume reduction attained, and the proportion of wastes stored on an interim basis, and (6) projects the interim storage and final disposal volume requirements anticipated for the following year, on a regional basis.

"SEC. 8. ALTERNATIVE DISPOSAL METHODS.

"(a) Not later than 12 months after the date of enactment of the Low-Level Radioactive Waste Policy Amendments Act of 1985, the Nuclear Regulatory Commission shall, in consultation with the States and other interested persons, identify methods for the disposal of low-level radioactive waste other than shallow land burial, and establish and publish technical guidance regarding licensing of facilities that use such methods.

"(b) Not later than 24 months after the date of enactment of the Low-Level Radioactive Waste Policy Amendments Act of 1985, the Commission shall, in consultation with the States and other interested persons, identify and publish all relevant technical information regarding the methods identified pursuant to subsection (a) that a State or compact must provide to the Commission in order to pursue such methods, together with the technical requirements that such facilities must meet, in the judgment of the Commission, if pursued as an alternative to shallow land burial. Such technical information and requirements shall include, but need not be limited to, site suitability, site design, facility operation, disposal site closure, and environmental monitoring, as necessary to meet the performance objectives established by the Commission for a licensed low-level radioac-

tive waste disposal facility. The Commission shall specify and publish such requirements in a manner and form deemed appropriate by the Commission.

"SEC. 9. LICENSING REVIEW AND APPROVAL

"In order to ensure the timely development of new low-level radioactive waste disposal facilities, the Nuclear Regulatory Commission or, as appropriate, agreement States, shall consider an application for a disposal facility license in accordance with the laws applicable to such application, except that the Commission and the agreement state shall-

"(1) not later than 12 months after the date of enactment of the Low-Level Radioactive Waste Policy Amendments Act of 1985, establish procedures and develop tie technical capability for processing applications for such licenses;

"(2) to the extent practicable, complete all activities associated with the review and processing of any application for such a license (except for public hearings) no later than 15 months after the date of receipt of such application; and

"(3) to the extent practicable, consolidate all required technical and environmental reviews and public hearings.

"SEC. 10. RADIOACTIVE WASTE BELOW REGULATORY CONCERN.

"(a) Not later than 6 months after the date of enactment of the Low-Level Radioactive Waste Policy Amendments Act of 1985, the Commission shall establish standards and procedures, pursuant to existing authority, and develop the technical capability for considering and acting upon petitions to exempt specific radioactive waste streams from regulation by the

Commission due to the presence of radionuclides in such waste streams in sufficiently low concentrations or quantities as to be below regulatory concern.

"(b) The standards and procedures established by the Commission pursuant to subsection (a) shall set forth all information required to be submitted to the Commission by licensees in support of such petitions, including, but not limited to—

"(1) a detailed description of the waste materials, including their origin, chemical composition, physical state, volume, and mass; and

"(2) the concentration or contamination levels, half-lives, and identities of the radionuclides present.

Such standards and procedures shall provide that, upon receipt of a petition to exempt a specific radioactive waste stream from regulation by the Commission, the Commission shall determine in an expeditious manner whether the concentration or quantity of radionuclides present in such waste stream requires regulation by the Commission in order to protect the public health and safety. Where the Commission determines that regulation of a radioactive waste stream is not necessary to protect the public health and safety, the Commission shall take such steps as may be necessary, in an expeditious manner, to exempt the disposal of such radioactive waste from regulation by the Commission.".

APPENDIX F: COPY OF PUBLIC LAW 96-573
(Low-Level Radioactive Waste Policy Act of 1980)

Public Law 96-573
96th Congress

An Act

To set forth a Federal policy for the disposal of low-level radioactive wastes, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SHORT TITLE

SECTION 1. This Act may be cited as the "Low-Level Radioactive Waste Policy Act".

DEFINITIONS

SEC. 2. As used in this Act—

(1) The term "disposal" means the isolation of low-level radioactive waste pursuant to requirements established by the Nuclear Regulatory Commission under applicable laws.

(2) The term "low-level radioactive waste" means radioactive waste not classified as high-level radioactive waste, transuranic waste, spent nuclear fuel, or byproduct material as defined in section 11 e. (2) of the Atomic Energy Act of 1954.

(3) The term "State" means any State of the United States, the District of Columbia, and, subject to the provisions of Public Law 96-205, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, the Northern Mariana Islands, the Trust Territory of the Pacific Islands, and any other territory or possession of the United States.

(4) For purposes of this Act the term "atomic energy defense activities of the Secretary" includes those activities and facilities of the Department of Energy carrying out the function of—

(i) Naval reactors development and propulsion,

(ii) weapons activities, verification and control technology,

(iii) defense materials production,

(iv) inertial confinement fusion,

(v) defense waste management, and

(vi) defense nuclear materials security and safeguards (all as included in the Department of Energy appropriations account in any fiscal year for atomic energy defense activities).

GENERAL PROVISIONS

SEC. 3. (a) Compacts established under this Act or actions taken under such compacts shall not be applicable to the transportation, management, or disposal of low-level radioactive waste from atomic energy defense activities of the Secretary or Federal research and development activities.

(b) Any facility established or operated exclusively for the disposal of low-level radioactive waste produced by atomic energy defense activities of the Secretary or Federal research and development activities shall not be subject to compacts established under this Act or actions taken under such compacts.

LOW-LEVEL RADIOACTIVE WASTE DISPOSAL

SEC. 4. (a)(1) It is the policy of the Federal Government that—

(A) each State is responsible for providing for the availability of capacity either within or outside the State for the disposal of low-level radioactive waste generated within its borders except for waste generated as a result of defense activities of the Secretary or Federal research and development activities; and

(B) low-level radioactive waste can be most safely and efficiently managed on a regional basis.

(2)(A) To carry out the policy set forth in paragraph (1), the States may enter into such compacts as may be necessary to provide for the establishment and operation of regional disposal facilities for low-level radioactive waste.

(B) A compact entered into under subparagraph (A) shall not take effect until the Congress has by law consented to the compact. Each such compact shall provide that every 5 years after the compact has taken effect the Congress may by law withdraw its consent. After January 1, 1986, any such compact may restrict the use of the regional disposal facilities under the compact to the disposal of low-level radioactive waste generated within the region.

(b)(1) In order to assist the States in carrying out the policy set forth in subsection (a)(1), the Secretary shall prepare and submit to Congress and to each of the States within 120 days after the date of the enactment of this Act a report which—

(A) defines the disposal capacity needed for present and future low-level radioactive waste on a regional basis;

(B) defines the status of all commercial low-level radioactive waste disposal sites and includes an evaluation of the license status of each such site, the state of operation of each site, including operating history, an analysis of the adequacy of disposal technology employed at each site to contain low-level radioactive wastes for their hazardous lifetimes, and such recommendations as the Secretary considers appropriate to assure protection of the public health and safety from wastes transported to such sites;

(C) evaluates the transportation requirements on a regional basis and in comparison with performance of present transportation practices for the shipment of low-level radioactive wastes, including an inventory of types and quantities of low-level wastes, and evaluation of shipment requirements for each type of waste and an evaluation of the ability of generators, shippers, and carriers to meet such requirements; and

(D) evaluates the capability of the low-level radioactive waste disposal facilities owned and operated by the Department of Energy to provide interim storage for commercially generated low-level waste and estimates the costs associated with such interim storage.

(2) In carrying out this subsection, the Secretary shall consult with the Governors of the States, the Nuclear Regulatory Commission, the Environmental Protection Agency, the United States Geological Survey, and the Secretary of Transportation, and such other agencies and departments as he finds appropriate.

Approved December 22, 1980.

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APPENDIX B

Low Level Radioactive Waste Forum, Inc

Summary Report: Low-Level Radioactive Waste Management Activities in the States and Compacts

A supplement to LLW Notes

Volume 15, Number 1 September 2008

Editor and Writer: Todd D. Lovinger

Layout and Design: Rita Houskie, Central Interstate Low-Level Radioactive Waste Compact

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Summary Report: Low-Level Radioactive Waste Management Activities in the States and Compacts is a supplement to *LLW* Notes and is distributed periodically by the Low-Level Radioactive Waste Forum, Inc. to members of its Board of Directors and to select subscribers of LLW Forum materials and publications.

The Summary Report may also be found on the closed portions of the LLW Forum, Inc.'s web site at www.llwforum.org.

duced without the express written approval of the organization's Board of Directors.

The Low-Level Radioactive Waste Forum, Inc. (LLW Forum) is an association of state and compact representatives, appointed by governors and compact commissions, established to facilitate state and compact implementation of the Low-Level Radioactive Waste Policy Act of 1980 and the Low-Level Radioactive Waste Policy Amendments Act of 1985 and to promote the objectives of low-level radioactive waste regional compacts. The LLW Forum provides an opportunity for state and compact officials to share information with one another and to exchange views with officials of federal agencies and other interested parties. All interested stakeholders—including states, compacts, federal agencies, facility operators, brokers and processors, generators, associations, and others—may now join and participate in the LLW Forum.

Key to Abbreviations

U.S. Department of Energy	DOE
U.S. Department of Transportation	DOT
U.S. Environmental Protection Agency	EPA
U.S. General Accounting Office	GAO
U.S. Nuclear Regulatory Commission	NRC
Naturally-occurring and accelerator-produced Radioactive material	NARM
Naturally-occurring radioactive material	NORM
Code of Federal Regulations	CFR

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COMPACTS AND THEIR HOST STATES

Appalachian Compact

Governing Body Appalachian States Low-Level Radioactive Waste Commission

Member States Delaware, Maryland, Pennsylvania, West Virginia

Compact Established The compact was established February 19, 1986, and ratified by Congress on May 19, 1988. The commission's first organizational meeting was held April 30, 1990.

Current Waste Management Use of the Energy*Solutions'* commercial Class A, B and C LLRW disposal facility in Barnwell, SC has been discontinued, as non-compact waste may no longer be accepted for disposal at Barnwell after June 30, 2008. Subject to the Northwest Compact's Third Amended Resolution and Order (approved April 20, 2006), certain Class A domestic-generated LLRW may be shipped for disposal at Clive, UT if it meets the license conditions for the Energy*Solutions'* facility. In addition, certain NARM wastes meeting the State of Washington's conditions can be shipped to US Ecology's commercial disposal facility in Richland, WA. Regional generators presently have no access for the disposal of Class B and C LLRW (and certain Class A waste streams), all of which must be stored at this time.

Other Information On December 2, 1998, the commission amended its bylaws to allow the Chair to assume the duties of the Executive Director. The Commissioners then approved a resolution to close the commission's office, terminate all employment agreements, and transfer all records to the office of the Chair. The commission continues to exist as a

legal entity. The commission holds its annual meetings in Harrisburg, Pennsylvania. The Commission will elect a new Chair and Executive Director at its annual meeting in November of 2008.

In mid-2006, the Commission conducted a survey of low-level radioactive waste generators in the Appalachian Compact to assess the potential impact of the pending closure of the Barnwell disposal facility in South Carolina to out-of-region generators. The results of this survey indicated that there would be no immediate adverse impact on the low-level radioactive waste generators in the compact once Barnwell closed to generators outside the Atlantic Compact. Almost all generators surveyed indicated that they have some type of low-level radioactive waste storage option, once needed.

The Commission will be hosting the fall 2008 meeting of the Low-Level Radioactive Waste Forum, Inc. The meeting will be held at the Westin Hotel in Annapolis, Maryland on September 11-12, 2008.

Contact Robert Summers, Deputy Secretary, Maryland Department of the Environment, 1800 Washington Boulevard, Suite 745, Baltimore, MD 21230-1720 (phone – 410/537-4187; fax –410/537-3888; bsummers@mde.state.md.us; www.mde.state.md.us)

Host State: Pennsylvania

Regulatory and Program Responsibility Bureau of Radiation Protection, Department of Environmental Protection (DEP)

Siting Responsibility Pennsylvania Department of Environmental Protection (DEP)

Other Involvement DEP Low-Level Waste Advisory Committee Appalachian States Low-Level Ra-

dioactive Waste Commission Environmental Quality Board

Siting The low-level radioactive waste disposal facility siting project in Pennsylvania has been officially suspended as of December 31, 1998. The reasons for suspending the siting process include the dramatic reduction in the volume of the low-level radioactive waste that would have been disposed of at a regional facility in the Appalachian Compact and the availability of out-of-state disposal capacity.

DEP suspended the siting process after discussing the issue with its Low-Level Waste Advisory Committee and the Appalachian Compact Commission and receiving their support for the suspension decision. DEP will monitor national low-level radioactive waste disposal developments to insure disposal capacity will continue to be available to generators of low-level radioactive waste in the Appalachian Compact during the suspension. DEP has issued a Waste Minimization Guidance Document and will continue to promote best available practices regarding the low-level radioactive waste minimization.

Effective March 31, 2008, the Commonwealth of Pennsylvania became the 35th state to enter into an agreement with the U.S. Nuclear Regulatory Commission to assume part of the agency's regulatory authority over certain radioactive materials in the state. Under the terms of the agreement, NRC has transferred to Pennsylvania responsibility for licensing, rulemaking, inspection and enforcement activities for:

1.) radioactive materials produced as a result of processes related to the production or utilization of special nuclear material (SNM);

2.) uranium and thorium source materials;

3.) SNM in quantities not sufficient to form a critical mass; and,

4.) Accelerator-produced or other radioactive materials under NRC jurisdiction provided by the Energy Policy Act of 2005.

Approximately 700 licenses, most of which are for medical and industrial uses, have been transferred from NRC to Pennsylvania. NRC will retain jurisdiction over the regulation of commercial nuclear power plants and other facilities, as well as over federal agencies using certain nuclear material in the state. NRC will also retain authority for the review, evaluation and approval of sealed sources and devices containing certain nuclear materials manufactured in Pennsylvania and distributed throughout the country.

Licensing A projected date for submittal of a license application is not available.

Development Costs To date: Approximately $37 million.

Disposal Facility Operational A projected date is not available.

Contact Richard Janati, Chief of Nuclear Safety, Bureau of Radiation Protection, Department of Environmental Protection, Commonwealth of Pennsylvania, PO Box 8468, Harrisburg, PA 17105-8469 (phone – 717/787-2163; fax – 717/783-8965; rjanati@state.pa.us)

Atlantic Compact

Governing Body Atlantic Interstate Low-Level Radioactive Waste Commission

Member States South Carolina, New Jersey and Connecticut

Compact Established Congress ratified the original compact (which was then called the Northeast Interstate Low-Level Radioactive Waste Compact and which then consisted of the states of Connecticut, Delaware, Maryland and New Jersey) in 1985 and the President signed it into law in 1986. Shortly thereafter, two of the four original member states—Delaware and Maryland—joined the Appalachian Compact. In 1987, the remaining member states of Connecticut and New Jersey were designated as dual host states. Then, in June 2000, South Carolina Governor Jim Hodges signed a law enabling the State of South Carolina to join the compact—with South Carolina being designated as the host state. The compact was, at that time, renamed the Atlantic Interstate Low-Level Radioactive Waste Compact.

Current Waste Management Regional waste may currently be shipped to the disposal facility in Barnwell, South Carolina. (New Jersey and Connecticut cannot ship more than a total of 800,000 cubic feet of waste to the Barnwell facility.) Pursuant to South Carolina law, non-compact waste may no longer be accepted for disposal at Barnwell after June 30, 2008. The compact continues to allow generators to ship waste to disposal facilities outside of the compact region. Accordingly, subject to the Northwest Compact's Third Amended Resolution and Order (approved April 20, 2006), certain Class A domestic-generated LLRW may be shipped for disposal at Clive, UT if it meets the license conditions for the Energy*Solutions'* facility. In addition, certain NARM wastes meeting the State of Washington's

conditions can be shipped to US Ecology's commercial disposal facility in Richland, WA.

Other Information Officials project that approximately 4,000 to 11,000 cubic feet of waste will be disposed at Barnwell annually from in-region generators, depending upon how much Class A waste is shipped for disposal outside of the region. Officials continue to monitor facility operations carefully to ensure that revenues will meet operating costs as tax dollars may not be used to subsidize operating costs in the event of a shortfall.

On May 12, 2008, the South Carolina Budget and Control Board provided public notice that the importation of waste for disposal at Barnwell is no longer authorized as of July 1, 2008. (For additional information, see "Other Information" section of South Carolina on page 4.)

(For additional details, visit www.atlanticcompact.org.)

Contact Max Batavia, Executive Director, 1201 Main Street, Suite 1830, Columbia, South Carolina 29201 (phone – 803/737-1879; fax – 803/737-5023; mbatavia@microbyte.net; www.atlanticcompact.org)

Host State: South Carolina

Regulatory Responsibility Division of Waste Management, Bureau of Land and Waste Management, South Carolina Department of Health and Environmental Control

Program Responsibility South Carolina Budget and Control Board, Radioactive Waste Disposal Program–owns site property, plans for post-closure custodial care, and sets prices

Other Involvement Energy*Solutions,* Inc./Chem-Nuclear Systems, L.L.C.—facility operation

Current Waste Management Under current Atlantic Compact policy, waste generators (at their discretion) may ship waste for disposal to the Barnwell regional disposal facility in South Carolina or to disposal facilities located outside the compact region. (For additional information, see "Current Waste Management" section of Atlantic Compact on page 3.)

Disposal Technology below-grade vaults

Licensing A license authorizing possession and storage of waste at the Barnwell facility was first issued on November 6, 1969. On April 13, 1971, the license was amended to authorize disposal. Chem-Nuclear has applied for a license renewal and is currently operating under timely renewal status.

Disposal Facility Operational The Barnwell facility has been in operation since 1969. (See above.)

Other Information By letter dated May 12, 2008, the state Budget and Control Board provided public notice that "the board, effective July 1, 2008, no longer authorizes importation for the purposes of disposal at the Barnwell site." The letter states that "importation" includes disposal at Barnwell "of any waste that was generated in any foreign country or any state or territory of the United States other than Connecticut, New Jersey and South Carolina." The letter includes the following clarifications with regard to the board's policies on the disposal of waste at Barnwell as of July 1, 2008:

- *Waste Sent for Treatment or Processing:* "Waste generated within the Atlantic Compact region that is shipped to facilities outside the Atlantic Compact region for purposes of treatment or processing en route to disposal at Barnwell is considered waste generated within the Atlantic Compact region, as

long as the treatment residue is not commingled in the same package with residue generated by organizations outside the Atlantic Compact region."

• *Decontamination Residue:* "Decontamination residue generated from radioactive materials owned by Atlantic Compact organizations may be considered Atlantic Compact waste, whether or not the decontamination process takes place within the Atlantic Compact region."

• *Packaging or Consolidation:* "Sealed sources or other radioactive materials shipped from outside the Atlantic Compact region to waste brokering facilities within the Atlantic Compact region for purposes of packaging or consolidation are not considered wastes generated within the Atlantic Compact region. The Barnwell site may not accept radioactive material or waste that has been transported into the Atlantic Compact region and re-manifested as radioactive waste solely for purposes of establishing eligibility for disposal at the Barnwell site as Atlantic Compact waste."

Barnwell's Phase I Closure Project began in July 2008. Accordingly, over 90% of the site is now essentially closed. Future disposal will take place in a seven-acre area in the southeast corner of the site. Budget and Control Board staff projects as much as 11,000 cubic feet of waste per year if Atlantic Compact generators send all of their containerized waste to Barnwell, and less than half of this if they choose to ship Class A waste to the Clive facility in Utah.

State Contact Bill Newberry, Manager, Radioactive Waste Disposal Program, South Carolina Budget and Control Board, Energy Office, 1201 Main Street,

Suite 430, Columbia, SC 29201 (phone – 803/737-8037; fax – 803/737-1452; bnewberry@energy.sc.gov; www.barnwelldisposal.com)

Operator Contact Deborah Ogilvie, Public Information Director, or Bill House, Vice President of Regulatory Affairs, Chem-Nuclear Systems, LLC/ Energy*Solutions*, 140 Stoneridge Drive, Columbia, SC 29210 (phone – 803/256-0450; fax – 803/256-0968; dgogilvie@energysolutions.com or wbhouse@energy solutions.com; www.barnwelldisposal.com).

Central Compact

Member States Arkansas, Kansas, Louisiana, Oklahoma

Compact Established The compact was established May 12, 1983. The commission's organizational meeting was held June 29, 1983.

Current Waste Management Use of the Energy*Solutions'* commercial Class A, B and C LLRW disposal facility in Barnwell, SC has been discontinued, as non-compact waste may no longer be accepted for disposal at Barnwell after June 30, 2008. Subject to the Northwest Compact's Third Amended Resolution and Order (approved April 20, 2006), certain Class A domestic-generated LLRW may be shipped for disposal at Clive, UT if it meets the license conditions for the Energy*Solutions'* facility. In addition, certain NARM wastes meeting the State of Washington's conditions can be shipped to US Ecology's commercial disposal facility in Richland, WA. Regional generators presently have no access for the disposal of Class B and C LLRW (and certain Class A waste streams), all of which must be stored at this time.

Development Costs As of January 1999: $95.6 million. Projected total cost including construction: $154.3 million.

Disposal Facility Operational US Ecology's license application for the property near Butte in Boyd County was denied by state regulators on December 18, 1998.

Legal Matters On December 30, 1998, five utilities filed suit in the U.S. District Court for the District of Nebraska challenging actions taken by the State of Nebraska and its officials in reviewing US Ecology's license application. The lawsuit sought, among other things, removal of the state from any further involvement in the licensing process and an award of financial damages. The Central Commission, which was originally named as a defendant to the action, realigned itself as a plaintiff. On September 30, 2002, the district court issued an opinion finding that Nebraska had breached its duty of good faith under the compact. The court entered judgment against Nebraska in the amount of $151,408,240.37, but declined to award the commission's requested equitable relief in the form of a new, court-supervised licensing process. On August 9, 2004, the Central Compact voted 3 to 1 to accept a settlement under which the state would pay the compact commission $140.5 million plus interest—which monies were paid on August 1, 2005, thereby amicably ending all suits and claims between the parties. The commission subsequently distributed proceeds from the settlement funds to the member states for their contributions to community improvement funds; the major generators; and US Ecology.

On March 23, 2006, the compact commission notified the major generators that its decision to

retain $5 million of the settlement funds was a "final decision" with respect to their claims "though not a final decision regarding the ultimate disposition of the settlement funds retained." Shortly thereafter, on April 25, 2006, six generators filed a lawsuit in the U.S. District Court for the District of Nebraska against the compact commission seeking, among other things, to preserve their interest in the retained funds. In January 2007, the district court dismissed the suit with prejudice after finding that "there is nothing inequitable about the Commission keeping $5 million out of more than $145 million" because the plaintiffs have recovered all of their principal plus interest, the Commission has an arguable need for money since it is still in existence & will continue to be for the foreseeable future, and the Commission itself suffered damages.

Other Information In July 2005, the Central Commission held a two-day meeting in Little Rock, Arkansas during which it passed various resolutions including, among other things, resolutions:

- to defer further pursuit of a regional disposal facility for the time being;
- to continue monitoring national and regional developments concerning LLRW generation and disposal needs; and,
- to direct a consultant to carry out a review of disposal needs & practices of small generators in member states.

In May 2006, the compact transferred land previously designated for a regional facility to the Village of Butte.

Contact Rita Houskie, Office Administrator, Central Commission, P.O. Box 4770, Lincoln, NE 68504

(phone – 402/476-8247; fax – 402/476-8205; rita@cillrwcc.org; www.cillrwcc.org)

Central Midwest Compact

Governing Body Central Midwest Interstate Low-Level Radioactive Waste Commission

Member States Illinois, Kentucky

Compact Established The compact was established in September 1984, ratified by Congress effective January 1986, and most recently amended and ratified in October 1994.

Current Waste Management Use of the Energy*Solutions'* commercial Class A, B and C LLRW disposal facility in Barnwell, SC has been discontinued, as non-compact waste may no longer be accepted for disposal at Barnwell after June 30, 2008. Subject to the Northwest Compact's Third Amended Resolution and Order (approved April 20, 2006), certain Class A domestic-generated LLRW may be shipped for disposal at Clive, UT if it meets the license conditions for the Energy*Solutions'* facility. In addition, certain NARM wastes meeting the State of Washington's conditions can be shipped to US Ecology's commercial disposal facility in Richland, WA. Regional generators presently have no access for the disposal of Class B and C LLRW (and certain Class A waste streams), all of which must be stored at this time.

Other Information The compact and its host state, Illinois, have determined to place siting efforts on hold due to continued access to disposal facilities outside the compact region and a decline in waste volumes which impacts the economies of disposal facility development. The compact projects that it will not open a regional disposal facility until 2032 or

later, when some regional nuclear power plants will begin decommissioning. In the meantime, the compact and state have looked at interim storage as a possible solution until a permanent disposal facility is developed.

In 2004, the Central Midwest Commission requested that the State of Illinois evaluate the potential impacts on the region's generators from the pending loss of access to currently available disposal facilities. In order to make an assessment, the Illinois Emergency Management Agency (IEMA) initially hosted a conference for the region's waste generators in October 2004. The conference was then followed up with the distribution of a questionnaire designed to assess the potential impacts on the generators and their plans and preferences for managing their waste following disposal facility closure. In 2005, IEMA issued a report titled, "An Evaluation of the Potential Effects from the Closure of Available Disposal Capacity on the Central Midwest Compact Region's Low-Level Radioactive Waste Generators." The report concluded that regional generators would not suffer an immediate Class B and C low-level radioactive waste management crisis upon the scheduled loss of access to the Barnwell, South Carolina's disposal facility on July 1, 2008. In explanation, the report finds that the primary generators of Class B and C waste are the nuclear utilities and that they have indicated that they can safely store their Class B and C wastes for the remaining life of their plants (including any plant life extension). There is very little non-reactor generated Class B and C waste produced in the Central Midwest region. Three non-reactor generators combined anticipate generating less than 100 cubic feet of Class B and C waste in the 24-year period following the closure of the Chem-

Nuclear facility. In October 2006, the Central Midwest Compact and the State of Illinois sponsored a generators' conference to discuss this report. Another conference is planned for October of 2008.

For additional information or to obtain a copy of the report, please contact Marcia Marr of IEMA at (217) 785-9982.

Contact Marcia Marr, Executive Director, Central Midwest Interstate Low-Level Radioactive Waste Commission, Illinois Emergency Management Agency (IEMA), State of Illinois, 1035 Outer Park Drive, Springfield, Illinois, 62704 (phone – 217/785-9982; fax – 217/785-9977; Marcia.Marr@Illinois.gov; www.state.il.us/IEMA/dns.asp)

Host State: Illinois

Regulatory Responsibility Illinois Emergency Management Agency (IEMA)

Program and Siting Responsibility Low-Level Radioactive Waste Task Group (Task Group)—develop siting criteria

Illinois State Geological Survey and State Water Survey—statewide screening including evaluation of volunteer locations and identification of locations likely to meet the criteria

Illinois Emergency Management Agency—adopt rules establishing a site selection process for the regional disposal facility which considers land jointly volunteered by the landowner and applicable municipal or county government

Facility developer—conduct evaluation of the sites and locations identified under the site selection process

Illinois Emergency Management Agency—licensing agency

Disposal Technology above-grade, earthen-covered concrete vault

Siting In December 1996, the Task Group published siting criteria. As directed by amendments to the state siting law enacted in June 1997, the Illinois State Geological and Water Surveys screened the state and produced maps showing the application of the siting criteria and submitted their findings to the Task Group and to IDNS by September 30, 1997. IEMA will now develop a volunteer site selection process that will use the Surveys' information. The contractor will conduct a site selection process including the evaluation of volunteered lines. Once the contractor has selected a site and the Task Group approves the site, the contractor will proceed with characterization and licensure of the proposed site.

In 1997, Illinois determined to place further siting efforts on hold due to continued access to disposal facilities outside the compact region and a decline in waste volumes which impacts the economies of disposal facility development. It is projected that a regional disposal facility will not be opened until 2032 or later, when the nuclear power plants will begin decommissioning. In the meantime, Illinois has looked at interim storage as a possible solution until a permanent disposal facility is developed.

Licensing A license application is expected to be submitted by 2029.

Development Costs To date: not available. Estimated total cost including construction: not available.

Disposal Facility Operational Projected by 2032, when the availability of decommissioning waste from the region's nuclear power plants is projected to render the new facility cost effective.

Contact Michael Klebe, Illinois Emergency Management Agency, 1035 Outer Park Drive, Springfield, IL 62704 (phone – 217/785-9986; fax – 217/785-9977; Michael.Klebe@Illinois.gov; www.state.il.us/IEMA/dns.asp)

Midwest Compact

Governing Body Midwest Interstate Low-Level Radioactive Waste Compact Commission

Member States Indiana, Iowa, Minnesota, Missouri, Ohio, Wisconsin

Compact Established The compact was established in October 1983 and was given the consent of Congress in December 1985. Compact amendments were enacted by Ohio and Wisconsin in 1995 and by Indiana, Iowa, Minnesota, and Missouri in 1996; however, these amendments have not been submitted to Congress for consent.

Current Waste Management Use of the Energy*Solutions'* commercial Class A, B and C LLRW disposal facility in Barnwell, SC has been discontinued, as non-compact waste may no longer be accepted for disposal at Barnwell after June 30, 2008. Subject to the Northwest Compact's Third Amended Resolution and Order (approved April 20, 2006), certain Class A domestic-generated LLRW may be shipped for disposal at Clive, UT if it meets the license conditions for the Energy*Solutions'* facility. In addition, certain NARM wastes meeting the State of Washington's conditions can be shipped to US Ecology's

commercial disposal facility in Richland, WA. Regional generators presently have no access for the disposal of Class B and C LLRW (and certain Class A waste streams), all of which must be stored at this time.

Other Information On June 26, 1997, the Midwest Compact Commission halted development of a regional disposal facility in Ohio. Citing significant declines in Midwest Compact waste volumes, the potentially high cost of developing new disposal capacity, and continued access to the Barnwell and Envirocare of Utah (now operating as the Energy*Solutions'* Clive) disposal facilities, the Commission also relieved Ohio of its host state designation and its obligation to site and operate a regional facility. After a year-long review, the Commission closed its St. Paul office and assigned the executive duties to Stanley York—the Commission's Chair. In July 2007, Stanley York stepped down from the position of Commission Chair. The Commission reelected Roger Suppes as Vice-Chair and authorized him to complete the duties of the Chair. In 2008, the Commission reelected Stanley York to the Chair and as the delegate to meetings of the LLW Forum. He continues as the Executive Director of the Compact Commission. The Commission continues to work with generators to assure long-term access to disposal facilities.

Host State: None

Contacts Stanley York, Executive Director, Midwest Interstate Low-Level Radioactive Waste Compact Commission, 2851-1 Century Harbor, Middleton, WI 53562-1824 (phone – 608/831-5434; stan. york@tds. net; www.midwestcompact.org)

Northwest Compact

Governing Body Northwest Interstate Compact Committee

Member States Alaska, Hawaii, Idaho, Montana, Oregon, Utah, Washington, Wyoming

Compact Established The compact was established in 1981 and ratified by Congress in December 1985.

Current Waste Management In-region low-level radioactive waste is disposed of at the regional commercial disposal facility in Richland, Washington. NARM and exempt wastes meeting the Washington Department of Health's license conditions are also being shipped to the Richland facility.

Richland Facility The designated host state for the Northwest Compact is the State of Washington, which hosts a regional facility operated by US Ecology located on the U.S. DOE Hanford reservation in Richland, Washington. The Richland facility has separate disposal areas and accepts for disposal both federal waste and in-region commercial low-level radioactive waste (as well as commercial low-level radioactive waste from the Rocky Mountain Compact). Out-of-region commercial low-level radioactive waste (other than that coming from the Rocky Mountain Compact) is prohibited from being disposed of at the Richland facility. NARM waste may be received at the Richland facility from all states.

On November 2, 2004, voters in the State of Washington overwhelmingly approved an initiative (known as the Cleanup Priority Act) to, among other things, require the U.S. Department of Energy to clean up the Hanford nuclear reservation before it

sends any additional waste to the facility and to prevent the disposal of waste at the facility in unlined trenches. On June 12, 2006, the United States District Court for the Eastern District of Washington struck down the Act as preempted by the Atomic Energy Act (AEA) and in violation of sovereign immunity. The court ruled that the initiative is facially invalid and cannot be applied constitutionally in any circumstances—i.e., severability is not an issue. The State of Washington filed an appeal with the U.S. Court of Appeals for the Ninth Circuit in San Francisco on July 12, 2006. On May 21, 2008, the appellate court upheld the lower court's decision, finding that federal law preempts the Act.

In 2005, the State of Washington and US Ecology agreed to incorporate a clause in the new sublease for the disposal facility in Richland, Washington, allowing the state to terminate the sublease if the Northwest Compact loses exclusionary authority on out-of-region low-level radioactive waste provided by federal law.

Clive Facility Energy*Solutions* operates a disposal facility in Clive, Utah which accepts both federal and out-of-region Class A commercial low-level radioactive waste, NARM and exempt waste. On April 20, 2006, the Northwest Compact approved a Third Amended Resolution and Order regarding access to the Clive facility. The purpose of the amendment was to incorporate the company's name change and to modify monthly reporting requirements. Only those low-level radioactive wastes that are approved by the state/compact of origin (Utah/Northwest Compact) are provided access to the region for disposal at the Clive facility. On May 8, 2008, the compact adopted a resolution clarifying

that the Third Amended Resolution and Order does not address foreign low-level radioactive waste and that an arrangement would need to be adopted prior to such waste—including foreign generated waste characterized as domestic generated waste by another compact or unaffiliated state—being provided access to the region for disposal at the Clive Facility.

On May 5, 2008, Energy*Solutions* filed a lawsuit in the U.S. District Court for the District of Utah against the Northwest Compact and its Executive Director arguing, among other things, that: (1) Clive is not a "regional disposal facility" under the Policy Act and, as such, the compact lacks authority over the facility, (2) NRC's authority to regulate the import and export of nuclear materials preempts any authority that the compact may have over the Clive facility; and (3) the dormant Commerce Clause prevents the compact from discriminating against foreign waste. The case remains pending.

Contact Michael Garner, Executive Director, Northwest Interstate Compact, Policy Analyst, Nuclear Waste Program, Department of Ecology, State of Washington, PO Box 47600, Olympia, WA 98504-7600 (phone – 360/407-7102; fax – 360/407-6715; jamg461@ecy.wa.gov)

Host State: Washington

Regulatory Responsibility Department of Health

Program Responsibility Department of Ecology

Disposal Technology 10 CFR Part 61 near surface disposal

Siting The regional low-level radioactive waste disposal facility is located on the U.S. DOE Hanford

reservation on 100 acres of land subleased by US Ecology from the State of Washington. The sublease was renewed for ten years in 2005, with four ten-year renewal options.

Licensing The site operator's current materials license was issued by the Washington State Department of Health on October 20, 2005. The license expires January 31, 2011. Relicensing was one of three significant actions considered in the May 2004 environmental impact statement.

Development Costs Not applicable.

Disposal Facility Operational The compact's regional disposal facility has been in operation since July 1965.

Other Information The compact's low-level radioactive waste disposal site is not permitted for mixed waste. In 2005, the State of Washington and US Ecology agreed to incorporate a clause in the new sublease for the disposal facility in Richland, Washington, allowing the state to terminate the sublease if the Northwest Compact loses exclusionary authority on out-of-region low-level radioactive waste provided by federal law.

Voter Initiative/Related Litigation On November 2, 2004, by a margin of roughly 2 to 1, voters in the State of Washington overwhelmingly approved an initiative to require the U.S. Department of Energy to clean up the Hanford nuclear reservation before it sends any additional waste to the facility. In addition, initiative 297 also seeks to prevent the disposal of waste in unlined trenches. The initiative—which is known as the "Cleanup Priority Act"—was sponsored by Heart of America Northwest and received en-

dorsements from environmental groups, the state Democratic Party and the League of Women Voters.

After passage of the initiative, DOE filed a lawsuit in the United States District Court for the Eastern District of Washington challenging its constitutionality and sought a restraining order on its enforcement. In so doing, the department argued that there are too many uncertainties about how the state will implement the measure. In addition, Department of Justice attorneys contended that some cleanup efforts at the site have already been halted as a result of the initiative. On December 2, 2004, the judge for the U.S. District Court of the Eastern District of Washington ruled for the federal government and issued the requested restraining order—although waste shipments to the site had already been halted under another lawsuit. In so ruling, the judge found that there is a possibility that the initiative may be invalid and that DOE will suffer irreparable injury with regard to onsite cleanup at Hanford if it were to immediately become law.

On June 12, 2006, the United States District Court for the Eastern District of Washington struck down the Cleanup Priority Act as preempted by the Atomic Energy Act (AEA) and in violation of sovereign immunity. The State of Washington filed an appeal with the U.S. Court of Appeals for the Ninth Circuit in San Francisco on July 12, 2006. On May 21, 2008, the appellate court upheld the lower court's decision, finding that federal law preempts the Act. The state has until August 19, 2008 to decide if it will appeal the Ninth Circuit decision.

State Contact Lawrence Goldstein, Chair, Northwest Interstate Compact, Section Manager, Nuclear Waste Program, Department of Ecology, State of

Washington, PO Box 47600, Olympia, WA 98504-7600 (phone – 360/407-6573; fax – 360/407-6715; lgol461@ecy.wa.gov)

Operator Contact Chad Hyslop, Sales Director, American Ecology, Lakepointe Centre, 300 E. Mallard Drive, Suite 300, Boise, ID 83706 (phone – 208/331-8400; fax – 208/331-7900; chyslop@americanecology.com)

Host State: Utah

Regulatory Responsibility Division of Radiation Control of the Utah Department of Environmental Quality

Program Responsibility Division of Radiation Control of the Utah Department of Environmental Quality (DEQ)

Disposal Technology & Operation embankment/ modified shallow-land burial (facility operation began in 1988)

Siting The Energy*Solutions'* Clive, Utah low-level radioactive waste disposal facility is located on 540 acres of land in Tooele County, Utah—80 miles west of Salt Lake City. Additional land in Section 29 has been approved by the Executive Secretary, but Energy*Solutions* voluntarily withdrew its expansion request. (See "Licensing" section below.)

Licensing Subject to the Northwest Compact's Third Amended Resolution and Order (approved April 20, 2006), out-of-region low-level radioactive wastes meeting Energy*Solutions'* Clive facility license conditions are provided access to the region for disposal at the Clive facility. The site operator's current license was issued on January 25, 2008 for a five-year term that expires in 2013. The license is

under appeal by Cedar Mountain Environmental. The administrative proceedings are in progress. Energy*Solutions* is allowed to operate under the new license during the administrative proceedings. The facility is licensed to accept mixed and low-level radioactive waste up to Class A limits, containerized Class A waste, NORM, and uranium and thorium mill tailings. In August 2004, the Division of Radiation Control was granted an amendment from NRC allowing regulation of uranium mill tailings, which license remains in timely renewal.

In 2005, legislation (1SSB24) was passed which modifies the Radiation Control Act to state: "No entity may accept in the state or apply for a license to accept in the state for commercial storage, decay in storage, treatment, incineration or disposal: (1) class B or class C low-level radioactive waste or (2) radioactive waste having a higher radionuclide concentration than the highest radionuclide concentration allowed under licenses existing on February 25, 2005 . . ." At Energy*Solutions'* request, the Clive facility's license to accept Class B and C low-level waste was terminated in Feb. 2005.

On March 15, 2007, Utah Governor Jon Huntsman and Energy*Solutions* entered into an agreement that, among other things, requires the company to immediately withdraw a pending license amendment that would have provided additional disposal capacity. In return, Huntsman agreed to refrain from seeking to limit disposal volumes at the facility.

Mergers/Acquisitions and Public Offering On February 3, 2006, it was announced that BNG America, Envirocare of Utah, and Scientech D&D were merging to form Energy*Solutions.* Subsequently, Energy*Solutions* acquired several other

companies including Duratek, Parallax, Safeguard International Solutions, and Reactor Sites Management Co. In November 2007, Energy*Solutions* began trading publicly on the New York Stock Exchange under the ticker symbol ES.

Foreign Waste and Associated Litigation On September 14, 2007, Energy*Solutions* applied to NRC for licenses to import up to 20,000 tons of potentially radioactively contaminated material from Italy and to export for return to generators in Italy any of the imported waste that can not be recycled or does not meet the Clive facility's waste acceptance criteria for disposal. Under the proposal, which is opposed by Utah's Governor, the contaminated material would be processed at the Bear Creek facility in Tennessee for recycling and beneficial reuse with any resultant waste being disposed at the Clive facility. Energy*Solutions* estimates that approximately 1,600 tons of the imported material would be disposed at the Clive facility. NRC is currently reviewing the applications, including public comments and requests for hearings from Utah and several organizations. On May 5, 2008, Energy*Solutions* filed a lawsuit challenging the Northwest Compact's authority over the Clive facility and, in particular, its authority to restrict the importation of foreign-generated low-level radioactive waste. A five-day bench trial has been scheduled commencing Sept. 28, 2009.

Other Information The Clive facility is subject to certain fees and taxes—which were last increased in 2003—on the disposal of waste at the facility. Generators are required to obtain site access permits on an annual basis.

State Contact Dane Finerfrock, Director, Division of Radiation Control, Utah Department of Envi-

ronmental Quality, 168 North 1950 West, PO Box 144850, Salt Lake City, UT 84114-4850 (phone – 801/536-4257; fax – 801/533-4097; dfinerfrock@utah.gov; www.deq.utah.gov)

Operator Contact Tye Rogers, Senior Vice President, Energy*Solutions*, 423 West 300 South, Suite 200, Salt Lake City, UT 84101 (phone – 801/649-2000; fax – 801/413-5646; trogers @energysolutions.com)

Rocky Mountain Compact

Compacts and Their Host States (Governing Body Rocky Mountain Low-Level Radioactive Waste Board

Member States Colorado, Nevada, New Mexico

Compact Established The compact was established in 1983 and ratified by Congress in December 1985.

Current Waste Management The Rocky Mountain Board has a contract with the Northwest Compact and the State of Washington for the disposal of commercial Class A, B and C low-level radioactive waste at the compact's regional disposal facility in Richland, Washington. In addition, subject to the Northwest Compact's Third Amended Resolution and Order (approved April 20, 2006), certain Class A domestic-generated LLRW may be shipped for disposal at Clive, UT if it meets the license conditions for the Energy*Solutions'* facility. Certain NORM and TENORM wastes meeting the State of Colorado's conditions are being shipped to the Clean Harbors Deer Trail facility. Certain NARM wastes meeting the State of Washington's conditions are being shipped to the Richland facility. Certain wastes are

being shipped to other facilities including the US Ecology facility in Idaho.

Facility Designation In May 2005, the Rocky Mountain Low-Level Radioactive Waste Board received an application from the State of Colorado for the designation of Clean Harbors Deer Trail facility (CHDTF) as a limited regional low-level radioactive waste disposal facility. Colorado filed the application after receiving in January 2005 a radioactive materials license application from CHDTF that proposes the disposal of Naturally Occurring Radioactive Materials (NORM) and Technologically Enhanced Naturally Occurring Radioactive Materials (TENORM) at the facility. In September 2006, the Rocky Mountain Board designated CHDTF as a regional facility for the disposal of NORM and TENORM up to 400 pCi/g of radium and 2,000 pCi/g total NORM and TENORM. In-region generated NORM and TENORM may be disposed of in the region at such facilities allowed by the policies and regulations of the state in which such disposal will occur.

Other Information Export authorization is required for all waste generated within the compact region that is sent outside of the region. Import authorization is required to bring out-of-compact waste into the region for management. The compact has jurisdiction (including import/export authority) over NORM/NARM.

Compact Contact Leonard Slosky, Executive Director, Rocky Mountain Board, 1675 Broadway, Suite 1400, Denver, CO 80202 (phone – 303/825-1912; fax – 303/892-3882; board@rmllwb.us; www.rmllwb. us)

Operator Contact Phillip Retallick, Senior Vice President, Compliance and Regulatory Affairs, Clean

Harbors Environmental Corp., 200 Arbor Lake Drive, Suite 300, Columbia, SC 29223 (phone – 803/691-3427; fax – 803/691-3493; Retallick.Phillip@cleanharbors.com)

Host State: Colorado

Regulatory Responsibility Colorado Department of Public Health and Environment (CDPHE)

Program Responsibility Colorado Department of Public Health and Environment (CDPHE)

Siting Clean Harbors Deer Trail facility (CHDTF) is located in Adams County, Colorado

Licensing In January 2005, the State of Colorado received a radioactive materials license application from CHDTF that proposes the disposal of Naturally Occurring Radioactive Materials (NORM) and Technologically Enhanced Naturally Occurring Radioactive Materials (TENORM) at the facility. The application is on the board's web page at www.rmllwb.us. (For additional information, see the "Facility Designation" section of the compact on page 12.)

On December 21, 2005, CDPHE issued a hazardous waste permit renewal and radioactive materials license to CHDTF. The radioactive materials license allows the facility to accept limited types of NORM and TENORM or such waste that has been modified in industrial processes. It prohibits the acceptance of artificial or artificially altered radioactive material from research, medicine, weapons, nuclear power plants or other operations. Pursuant to the license, CHDTF has been accepting NORM and TENORM since December of 2006.

Litigation Against CDPHE On January 20, 2006, the Adams County Board of Commissioners

("Adams County") filed two lawsuits against CDPHE. One suit—which was filed in the District Court of Adams County—challenges the hazardous waste permit for CHDTF. The other suit—which was filed in the District Court for the City and County of Denver—challenges the issuance of the radioactive materials license for the facility. In the lawsuits, Adams County contends CDPHE's issuance of a radioactive materials license to the Deer Trail facility "was in excess of its statutory jurisdiction, authority, purposes and limitations, was arbitrary and capricious, was an abuse of discretion, was unsupported by substantial evidence, was a denial of a statutory right, was contrary to the Radiation Control Act and its regulations, and otherwise contrary to law" for a variety of reasons.

On May 17, 2006, the Denver District Court issued an order dismissing the lawsuit challenging the issuance of a limited radioactive materials disposal license to CHDTF. In dismissing the suit, the court held that the plaintiff lacks constitutional and prudential standing and that the court thus lacks subject matter jurisdiction over the action. On July 5, 2006, the District Court of Adams County ruled that the plaintiff does not have judicial standing to sue the State of Colorado. The court vacated the judicial stay of the CHDTF radioactive materials license via bench verdict.

Adams County filed an appeal of the district court orders in both lawsuits. On October 2, 2007, a three-judge panel of the Colorado Court of Appeals issued two orders affirming the lower court decisions.

Litigation Against CHDTF On April 25, 2007, Adams County filed suit against CHDTF in the District Court of Adams County, Colorado seeking

civil penalties, injunctive and declaratory relief. The suit alleges, among other things, that CHDTF has violated applicable laws by operating a regional low-level radioactive waste disposal facility without applying for and obtaining the necessary permit from Adams County. The plaintiff asserts that CHDTF's conduct violates various statutes, rules and regulations including the Local Government Land Use Control Enabling Act, the Colorado Hazardous Waste Siting Act, the Solid Wastes Act, the Adams County Development Standards & Regulations, and the Low-Level Radioactive Waste Act. In October 2007, the court dismissed two counterclaims filed by CHDTF after finding that it lacks jurisdiction due to Clean Harbors' failure to timely exercise its right of judicial review pursuant to Colorado statute. Shortly thereafter, in November 2007, CDPHE filed a motion seeking to intervene as co-defendant in the suit. The action remains pending. CHDTF denies the charges and continues to accept NORM and TENORM.

State Contacts Joe Vranka of the Colorado Department of Public Health and the Environment at (303) 692-3402.

Operator Contact Phillip Retallick, Senior Vice President, Compliance and Regulatory Affairs, Clean Harbors Environmental Corp., 200 Arbor Lake Drive, Suite 300, Columbia, SC 29223 (phone – 803/691-3427; fax – 803/691-3493; Retallick.Phillip @cleanharbors.com)

Southeast Compact

Governing Body Southeast Compact Commission for Low-Level Radioactive Waste Management

Member States Alabama, Florida, Georgia, Mississippi, Tennessee, and Virginia

Compact Established The Southeast Compact was established in 1983 and ratified by Congress in 1985. The compact law was amended in 1989.

Current Waste Management Use of the Energy*Solutions'* commercial Class A, B and C LLRW disposal facility in Barnwell, SC has been discontinued, as non-compact waste may no longer be accepted for disposal at Barnwell after June 30, 2008. Subject to the Northwest Compact's Third Amended Resolution and Order (approved April 20, 2006), certain Class A domestic-generated LLRW may be shipped for disposal at Clive, UT if it meets the license conditions for the Energy*Solutions'* facility. In addition, certain NARM wastes meeting the State of Washington's conditions can be shipped to US Ecology's commercial disposal facility in Richland, WA. Regional generators presently have no access for the disposal of Class B and C LLRW (and certain Class A waste streams), all of which must be stored at this time.

Facility Designation In 1986, the Southeast Compact Commission designated North Carolina as the next host state. The North Carolina General Assembly accepted that designation. North Carolina began development of a disposal facility and accepted nearly $80 million from the Southeast Compact Commission for site development activities.

Sanctions/Litigation In June 1999, Commissioners from Florida and Tennessee filed a formal administrative complaint against North Carolina seeking sanctions for failure to fulfill its host state obligations. After conducting a formal hearing process, on December 9, 1999, the Southeast Compact Commission voted to impose sanctions on North Carolina, including the repayment of almost $80 million in funds given to the state by the compact for devel-

opment of a regional facility, $10 million in lost future revenues, and an unspecified amount for attorney's fees. The commission resolved that the required amounts "shall be paid in full by July 10, 2000." On June 23, 2002, the Southeast Compact—along with the party states of Alabama, Florida, Tennessee, and Virginia—filed a lawsuit in the U.S. Supreme Court to enforce the sanctions against North Carolina. That suit is in the development of evidence phase before a Special Master appointed by the Court. The Court is not expected to issue a decision until the fall of 2008 at the earliest, although spring of 2009 is more likely.

Withdrawal On July 26, 1999, the State of North Carolina—which had been designated as the compact's host state—enacted legislation to withdraw from the Southeast Compact. Although North Carolina is no longer a member state of the Southeast Compact, the compact maintains that the state is subject to the sanctions resolution of December 9, 1999 (see above). The compact maintains that the state will remain subject to the sanctions resolution until its terms are satisfied or the case against North Carolina is otherwise resolved as determined by the Commission in its sole discretion.

LLRW Policy Statement On June 27, 2008, the Southeast Compact Commission revised its policy statement on the management of commercial low-level radioactive waste. The statement identifies a preferred course of action, reviews the impact of the loss of access for Class B & C waste in 2008, and provides a cautionary note regarding future decisions and alternative proposals.

Radiation Control in US Policy Statement On June 27, 2008, the Southeast Compact Commission

adopted a policy statement concerning controls over ionizing radiation, including the management of radioactive waste. The statement argues that the current system of controls over ionizing radiation is "inconsistent" and that a "unified vision" is needed. It recommends that the U.S. Congress promulgate legislation "establishing a national policy in regard to ionizing radiation, including the management of radioactive waste."

A copy of the policy statements, as well as other compact documents, can be found at www.secompact.org.

Contact Kathryn Haynes, Executive Director, Southeast Compact Commission, 21 Glenwood Avenue, Suite 207, Raleigh, NC 27603 (phone – 919/821-0500; fax – 919/821-1090; khaynes@secompact.org; www.secompact.org)

Southwestern Compact

Governing Body Southwestern Low-Level Radioactive Waste Commission

Member States Arizona, California, North Dakota, South Dakota

Compact Established The compact was established in July 1988 and ratified by Congress in November 1988. North Dakota and South Dakota joined the compact in 1989.

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domestic-generated LLRW may be shipped for disposal at Clive, UT if it meets the license conditions for the Energy*Solutions'* facility. In addition, certain NARM wastes meeting the State of Washington's conditions can be shipped to US Ecology's commercial disposal facility in Richland, WA. Regional generators presently have no access for the disposal of Class B and C LLRW (and certain Class A waste streams), all of which must be stored at this time.

Other Information Generators who want to export low-level radioactive waste for disposal at the Energy*Solutions'* Clive, Utah facility must petition the Southwestern Compact Commission for approval. A fee must accompany the petition. A petition is not required for disposal of NARM waste at the Richland, Washington disposal facility nor is a petition required for exportation of low-level radioactive waste for treatment outside of the Southwestern Compact region unless the treated waste is ultimately destined for land disposal. Any party planning to import low-level radioactive waste into the Southwestern Compact region for disposal is required to obtain written approval from (1) the compact or unaffiliated state in which the waste originated; (2) the Southwestern Compact Commission; and (3) the radiation control and waste management agencies of the state into which the waste would be imported for disposal.

Contact Don Womeldorf, Executive Director, Southwestern Compact Commission, PO Box 277727, Sacramento, CA 95827-7727 (phone – 916/448-2390; fax – 815/361-3848; swllrwcc@swllrwcc.org; www.swllrwcc.org)

Host State: California

Regulatory and Program Responsibility California Department of Health Services (DHS)

Siting Responsibility None

Other Involvement None

Disposal Technology enhanced shallow land burial

Siting The state previously chose land in Ward Valley as its preferred site. However, the land is owned by the federal government, which subsequently declined to transfer it to the state. A new preferred site has not been chosen.

Licensing A license for a disposal facility at Ward Valley was issued by DHS on September 16, 1993, conditioned on DHS ownership of the land. The license did not include mixed waste disposal. Due to the federal government's refusal to transfer the land, the license became moot.

Development Costs Through November 1, 1998, approximately $92 million including interest had been spent on the unsuccessful attempt to develop a facility at Ward Valley.

Disposal Facility Operational Unknown.

Other Information Although the State of California issued a license to build a low-level radioactive waste disposal facility at Ward Valley in 1993, the license became moot when the federal government refused to transfer the site to the state for its intended use. The state subsequently enacted a statute precluding site development in Ward Valley.

US Ecology, the selected developer for the Ward Valley site, unsuccessfully attempted to recover mon-

etary damages from the failed land transfer process through litigation in state court.

. On June 2, 1999, then-California Governor Gray Davis established an advisory group charged with proposing ways to find "workable alternatives for California's low-level radioactive waste disposal." The state's original preferred site—Ward Valley, California—was not among the issues to be studied by the group. In mid-2000, the advisory group delivered a report to the Governor which presents four options: (1) continue current practices—storage for decay and disposal at out-of-state facilities—for management of low-level radioactive waste produced within the state, (2) divide the waste stream into categories according to various criteria and apply different management techniques, (3) operate an assured isolation facility, and (4) operate a disposal facility. The report did not recommend any one option over the others and no further action has been taken by the state since its release.

On June 16, 1999, the California legislature adopted a budget that effectively eliminated the state's low-level radioactive waste program.

To date, the Southwestern Low-Level Radioactive Waste Commission has sent several letters to California Governor Arnold Schwarzenegger inquiring as to the "administration's plans regarding meeting California's legal obligation to provide a low-level radioactive waste (LLRW) disposal facility." The Governor has not responded to the letters, the most recent of which was sent in May 2005.

Contact Gary Butner, Chief, Radiologic Health Branch, Department of Public Health, State of California, 1500 Capitol Avenue, MS 7610, Sacramento,

CA 95899 (phone – 916/440-7942; fax – 916/650-6722; gary.butner@cdph.ca.gov)

Texas Compact

Governing Body Texas LLRW Disposal Compact Commission

Member States Texas, Vermont

Compact Established In June 1993, the Governor of Texas signed into law legislation establishing a low-level radioactive waste compact with Maine and Vermont. Maine completed its approval process with the passage of a referendum on November 2, 1993. Vermont adopted the compact on April 25, 1994. President Clinton then signed the compact consent legislation into law on September 20, 1998. Maine's former-Governor, Angus King, signed legislation into law on April 5, 2002 removing Maine from the Texas Compact. Based on compact provisions, the withdrawal became effective in April 2004.

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Other Information On August 4, 2004, Waste Control Specialists LLC (WCS) filed an application with the Texas Commission on Environmental Quality (TCEQ). The application was deemed administratively complete on February 18, 2005 and was deemed most meritorious on March 31, 2005. Two technical notices of deficiency were issued on September 16, 2005 and on January 30, 2006—both of which to WCS timely responded. On June 5, 2006, TCEQ sent a letter advising WCS that the application contains "significant" unresolved deficiencies. On August 30, 2006, in response to a request from WCS, TCEQ granted the company an extension to respond to the agencies concerns by May 1, 2007. On March 19, 2007, TCEQ formally accepted the response to noted technical deficiencies from WCS, as well as a revised application. Revised application materials were subsequently accepted on April 27, 2007 and on May 1, 2007. On December 10, 2007, TCEQ provided to WCS for review and comment an initial draft license including pre-construction, construction, operational, and maintenance requirements that may differ or expand upon information provided in the application, as well as a draft licensing Order that includes conditions that must be met before a final license can be issued. WCS has submitted comments thereon, which are currently under the final stages of review by TCEQ as of August 2008. TCEQ is completing an environmental analysis and will prepare a recommendation on the application—including a draft license. Under Texas requirements, administrative hearing proceedings would be conducted within 90 days and a proposal for decision must be issued within one year thereafter TCEQ commissioners must then issue a license or denial within 90 days.

Information on the WCS application and review can be found at http://www.tceq.state.tx.us/permitting/waste_permits/rad_waste/WCS_license_app.html.

The WCS site, which is located in Andrews County, Texas, continues to operate facilities for the processing, treatment and storage of hazardous, toxic, low-level, and mixed radioactive wastes. WCS recently received authorization to dispose of 11e.(2) or byproduct material.

State Contact Susan Jablonski, Director of Radioactive Materials Division, Texas Commission on Environmental Quality, State of Texas, PO Box 13087, Mail Code 233, Austin, TX 78711-3087 (phone – 512/239-6466; fax – 512/239-6464; sjablonski@tceq.state.tx.us; www.tceq.state.tx.us/nav/permits/rw. html)

Operator Contact Rodney Baltzer, President and CFO, Waste Control Specialists LLC, 5430 LBJ Freeway, Suite 1700, Dallas, TX 75240 (phone – 972/450-4235; fax – 972/448-1435; rbaltzer@valhi.net; www.wcstexas.com)

Host State: Texas

Regulatory and Program Responsibility Texas Commission on Environmental Quality (TCEQ)

Siting Responsibility Open to any private company

Disposal Technology stable bulk waste or concrete barriers in near-surface landfills

Siting In May 1991, based on preliminary data gathered during the siting process, the Texas Legislature passed legislation requiring the investigation of a site in a 400-square mile area in Hudspeth County for the proposed LLRW disposal facility. In February 1992, a site within this area was selected

and purchased, extensive testing began, and a license application was eventually submitted and subsequently denied. In May 2003, legislation was passed that removed the designation of Hudspeth County as the host county. New legislative exclusionary criteria limits the potential siting area to the panhandle region of Texas—bordered by the states of New Mexico and Oklahoma. Any site must be within the region, meet technical requirements and be supported by resolution of the affected county's Commissioners' Court.

Licensing In March 1992, the Texas Low-Level Radioactive Waste Disposal Authority submitted a license application for the Hudspeth County site to TCEQ. In July 1998, administrative law judges who conducted evidentiary hearings on the application recommended that TCEQ deny the application due to insufficiency of information in two of the 17 issues evaluated by the judges. The application was deemed adequate in all other areas. On October 22, 1998, the TCEQ Commissioners denied the application in accordance with the administrative law judges' recommendations. The Authority filed a motion for rehearing, but the motion was overruled by operation of law on December 11, 1998. No appeal was filed and the Authority closed its doors on September 1, 1999. Its functions were transferred to the TCEQ.

In 2003, the Texas legislature passed H.B. 1567, which amends Texas Health & Safety Code provisions dealing with the siting and operation of a commercial LLRW disposal facility for the Texas Compact. (A copy of the bill as passed by both the House and Senate can be found at http://www.capitol.state.tx.us/tlo/legislation/bill_status.htm.) The legislation allows for the creation of two pri-

vately run waste disposal facilities to be licensed as one site by the TCEQ. One facility may dispose of federal facility waste, as defined by the Low-Level Radioactive Waste Policy Act of 1980 and its 1985 amendments, subject to certain specified conditions. The other, adjacent facility, may dispose of commercial low-level radioactive waste. On August 4, 2004, Waste Control Specialists LLC submitted a license application to TCEQ for a site in Andrews County. (For additional information, see the "Other Info" section on the Texas Compact page.)

On May 31, 2007, the Texas legislature passed a bill (SB 1604) that, among other things, consolidates most waste management licensing authority within the TCEQ. Previously, the Department of State Health Services & the Executive Commissioner of the Health and Human Services Commission had jurisdiction over some of these authorities.

Development Costs To date: unknown. Estimated total cost including construction: unknown

Disposal Facility Operational Projected 2010

Other Information In August 2000, TCEQ issued two documents—a technical study and a legal analysis—relating to the management of LLRW in Texas. Both contain extensive discussion of the assured isolation concept.

On May 29, 2008, TCEQ issued a license to WCS to dispose of radioactive byproduct material including 3,700 canisters of cold-war era waste from cleanup of the Fernald site in Ohio that is presently being stored by WCS. In June 2008, the Lone Star Chapter of the Sierra Club filed a lawsuit challenging the license issuance and seeking a contested case hear-

ing. The lawsuit is currently pending before the 201st Judicial District Court of Texas.

Contact Susan Jablonski, Director of Radioactive Materials Division, Texas Commission on Environmental Quality, State of Texas, PO Box 13087, Mail Code 233, Austin, TX 78711-3087 (phone – 512/239-6466; fax – 512/239-6464; sjablonski@tceq.state.tx.us; www.tceq.state.tx.us/nav/permits/rw. html)

Operator Contact Rodney Baltzer, President and CFO, Waste Control Specialists LLC, 5430 LBJ Freeway, Suite 1700, Dallas, TX 75240 (phone – 972/450-4235; fax – 972/448-1435); rbaltzer@valhi.net; www.wcstexas.com)

UNAFFILIATED STATES

Massachusetts

Primary Regulatory Responsibility Department of Public Health (DPH)

Secondary Regulatory Responsibility Department of Environmental Protection (DEP)

Program and Siting Responsibility Department of Public Health

Disposal Technology Shallow land burial is prohibited in Massachusetts; the chosen technology must allow monitoring and package retrieval. The sited community will select the disposal technology from methods approved by DPH.

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and Order (approved April 20, 2006), certain Class A domestic-generated LLRW may be shipped for disposal at Clive, UT if it meets the license conditions for the Energy*Solutions'* facility. In addition, certain NARM wastes meeting the State of Washington's conditions can be shipped to US Ecology's commercial disposal facility in Richland, WA. Regional generators presently have no access for the disposal of Class B and C LLRW (and certain Class A waste streams), all of which must be stored at this time.

Siting As a result of renewed access to the Barnwell site in July 1995 and the expanded availability of the Envirocare (now known as Energy*Solutions*) disposal facility in Clive, Utah, the Commonwealth of Massachusetts decided in March 1996 to cease its activities involving statewide mapping and screening—the first major stage of its in-state siting efforts—and to continue discussions with other states and compacts for future disposal arrangements, while monitoring changes in the national low-level radioactive waste management situation.

Development Costs In 1996, estimated total costs of preoperation and construction for a hypothetical above-ground vault facility without a cover have been developed based on four potential facility capacities: 35,000 cubic feet per year—$47.5 million; 50,000 cubic feet per year—$48.7 million; 80,000 cubic feet per year—$49.8 million; 467,000 cubic feet per year—$65.7 million.

Contact Robert Walker, Director, Radiation Control Program, Department of Public Health, Commonwealth of Massachusetts, Schrafft Center, Suite 1M2A, 529 Main Street, Charleston, MA 02129 (phone – 617/242-3035 ext. 2001; fax – 617/242-3457; bob.walker@state.ma.us; www.mass.gov/dph/rcp)

Maine

Current Waste Management Use of the Energy*Solutions'* commercial Class A, B and C LLRW disposal facility in Barnwell, SC has been discontinued, as non-compact waste may no longer be accepted for disposal at Barnwell after June 30, 2008. Subject to the Northwest Compact's Third Amended Resolution and Order (approved April 20, 2006), certain Class A domestic-generated LLRW may be shipped for disposal at Clive, UT if it meets the license conditions for the Energy*Solutions'* facility. In addition, certain NARM wastes meeting the State of Washington's conditions can be shipped to US Ecology's commercial disposal facility in Richland, WA. Regional generators presently have no access for the disposal of Class B and C LLRW (and certain Class A waste streams), all of which must be stored at this time.

Siting Maine has no plans to site a disposal facility due to the small amount of low-level radioactive waste generated. The Governor has a State Nuclear Safety Advisor and an Advisory Commission on Radioactive Waste and Decommissioning to advise him on the issues.

Contact Department of Health and Human Services, Maine Center for Disease Control and Prevention, Division of Environmental Health, Radiation Control Program, 286 Water Street, 4th Floor, Augusta, ME 04333 (phone – 207/287-5676; fax – 207/287-3059)

Michigan

Regulatory Responsibility Michigan Department of Environmental Quality

U.S. Nuclear Regulatory Commission (Michigan is not an Agreement State.)

Program and Siting Responsibility Michigan Low-Level Radioactive Waste Authority (Authority)

Disposal Technology State law limits disposal technology to above- or below-ground vaults or above- or below-ground modular canisters. No final determination has been made on facility design.

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Siting A policy advisory board issued a series of recommendations in September 1995. The board's report included specific recommendations regarding the conduct of a volunteer host community process, revisions to state siting criteria, and consideration of compact options. Amendments to state law must be enacted before these recommendations can be implemented and a new siting process pursued. No effort is currently under way to enact amendments.

Development Costs To date: $12.6 million. Estimated total cost including construction: not available

Contact Thor Strong, Acting Commissioner, Low-Level Radioactive Waste Authority, Department of Environmental Quality, State of Michigan, 525 West Allegan, P.O. Box 30241, Lansing, MI 48909 (phone – 517/241-1252; fax – 517/241-1326; strongt@michigan.gov; www.michigan.gov/deq) (phone – 517/241-1252; fax – 517/241-1326; strongt@michigan.gov; www. michigan.gov/deq)

New Hampshire

Current Waste Management Use of the Energy*Solutions'* commercial Class A, B and C LLRW disposal facility in Barnwell, SC has been discontinued, as non-compact waste may no longer be accepted for disposal at Barnwell after June 30, 2008. Subject to the Northwest Compact's Third Amended Resolution and Order (approved April 20, 2006), certain Class A domestic-generated LLRW may be shipped for disposal at Clive, UT if it meets the license conditions for the Energy*Solutions'* facility. In addition, certain NARM wastes meeting the State of Washington's conditions can be shipped to US Ecology's commercial disposal facility in Richland, WA. Regional generators presently have no access for the disposal of Class B and C LLRW (and certain Class A waste streams), all of which must be stored at this time.

Siting New Hampshire has no plans to site a disposal facility due to the small amounts of low-level radioactive waste generated. The Governor's Ad Hoc Committee, with the assistance of the State Radiation Advisory Committee, continues to welcome an opportunity to discuss contracts or compacts with any interested state.

Contact Department of Health and Human Services, State of New Hampshire, 129 Portland

Street, Concord, NH 03301 (phone – 603/271-4688; fax – 603/271-4912)

Nebraska

Regulatory and Program Responsibility
Nebraska Department of Environmental Quality (NDEQ)

Nebraska Department of Health and Human Services Regulation and Licensure (HHSR&L)

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Licensing On December 18, 1998, regulators in NDEQ and HHSR&L denied US Ecology's license application for construction and operation of a regional low-level radioactive waste disposal facility in Boyd County, Nebraska. The decision to deny the application was based on six objections—five of which relate to the site characteristics, and one that concerns

US Ecology's financial qualifications. (The regulators had announced in August 1998 that the state

intended to deny the application based on the six objections, plus concerns about the radiation safety program's ability to address accidents. The latter issue was subsequently resolved.) The decision to deny the license was made following a 90-day public comment period and public hearing in Boyd County on the proposed decision.

As part of a legal settlement agreement (see "Other Information" below and the Central Compact page of this document), the Central Interstate Low-Level Radioactive Waste Compact Commission subsequently agreed to cease all efforts to site a facility in the State of Nebraska. In addition, the state is not currently conducting any siting activities of its own.

Other Information In May 1999, the Nebraska legislature passed legislation (which became effective on August 12, 1999) withdrawing the state from the Central Compact. Under the terms of the Central Compact, however, withdrawal does not take effect until five years after the passage of such legislation and the provision of written notice to the Governors of each party state. On June 25, 2003, commissioners from the member states of Arkansas, Kansas, Louisiana and Oklahoma voted to revoke Nebraska's membership in the Central Compact (which revocation took effect one year after Nebraska received notice thereof) and to impose certain sanctions upon the state. On August 22, 2003, the the State of Nebraska filed a lawsuit in the U.S. District Court for the District of Nebraska challenging the June 25 attempt to revoke and sanction the state as invalid and unenforceable on the grounds that it violates state and federal law and the express terms of the Central Compact. The lawsuit was ended amicably by the parties upon the State of Nebraska's completion of

payments made pursuant to a legal settlement agreement involving various lawsuits that was reached on August 9, 2004. (For additional information, see the Central Compact page of this document.) Pursuant to the terms of the settlement agreement, the State of Nebraska paid to the Central Compact $145.8 million on August 1, 2005. The State of Nebraska is no longer a member of the Central Compact and all issues between the parties are now resolved.

Contact Carla Prange Felix, Manager, Low-Level Radioactive Waste Program, Department of Environmental Quality, State of Nebraska, 1200 N Street, Suite 400, Lincoln, NE 68509-8922 (phone - 402/471-3380; fax – 402/471-2909; Carla.felix@ndeq.state.ne.us; www.deq.state.ne.us)

New York

Regulatory Responsibility Department of Environmental Conservation (DEC)

Program Responsibility New York State Energy Research and Development Authority (NYSERDA)

Siting Responsibility Siting activities suspended in 1995.

Other Involvement Department of Health (DOH)

New York City Department of Health and Mental Hygiene

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domestic-generated LLRW may be shipped for disposal at Clive, UT if it meets the license conditions for the Energy*Solutions'* facility. In addition, certain NARM wastes meeting the State of Washington's conditions can be shipped to US Ecology's commercial disposal facility in Richland, WA. Regional generators presently have no access for the disposal of Class B and C LLRW (and certain Class A waste streams), all of which must be stored at this time.

Disposal Technology State law bars shallow land burial. Above-grade vaults have been identified as the tentative preferred technology.

Siting The State Budget for FY 1995-96 phased-out the activities of the Low-Level Radioactive Waste Siting Commission, which was established in 1987 to select a site and disposal method. While subsequent legislative proposals have offered alternative siting processes, including solicitation of volunteer host communities, a revised siting process has not been determined. The DEC adopted low-level radioactive waste disposal facility siting and disposal method selection regulations in 1987. No siting activities are currently being conducted.

Licensing Once a site and a disposal method are selected, NYSERDA is responsible for obtaining both a DEC permit to construct and operate the facility and a DOH radioactive materials license.

Development Costs Through March 2008, $92.3 million has been collected through annual assessments on operating nuclear power plants (does not include surcharge rebates); $82.2 million has been spent on siting, regulation development, public participation and related activities. Estimated total cost including construction: not available at this time.

Disposal Facility Operational The DEC issued financial assurance regulations in September 1991 and regulations for design, construction, operation, closure, post-closure and institutional control in March 1993. NYSERDA is responsible for construction and operation.

Contacts Jack Spath, Program Manager, Radioactive Waste Policy and Nuclear Coordination, Energy Research and Development Authority, State of New York, Corporate Plaza West, 17 Columbia Circle, Albany, NY 12203-6399 (phone – 518/862-1090 ext. 3302; fax – 518/862-1091; jps@nyserda.org)

Alyse Peterson, Senior Project Manager, Radioactive Waste Policy and Nuclear Coordination, Energy Research and Development Authority, State of New York, Corporate Plaza West, 17 Columbia Circle, Albany, NY 12203-6399 (phone – 518/862-1090 ext. 3274; fax – 518/862-1091; alp@nyserda.org)

North Carolina

Regulatory Responsibility Radiation Protection Section (RPS), North Carolina Department of Environment and Natural Resources

Program and Siting Responsibility none at this time

Disposal Technology under prior plan - integrated vault

Current Waste Management Use of the Energy*Solutions'* commercial Class A, B and C LLRW disposal facility in Barnwell, SC has been discontinued, as non-compact waste may no longer be accepted for disposal at Barnwell after June 30, 2008. Subject to the Northwest Compact's Third Amended Resolution and Order (approved April 20, 2006), certain Class A

domestic-generated LLRW may be shipped for disposal at Clive, UT if it meets the license conditions for the Energy*Solutions'* facility. In addition, certain NARM wastes meeting the State of Washington's conditions can be shipped to US Ecology's commercial disposal facility in Richland, WA. Regional generators presently have no access for the disposal of Class B and C LLRW (and certain Class A waste streams), all of which must be stored at this time.

Siting In December 1993, the Authority selected a site in Wake County as its preferred site.

Licensing A license application was submitted by Chem-Nuclear to RPS in December 1993. Several problems were identified during the license review and a funding dispute broke out with the Southeast Compact Commission. Subsequently, the state terminated the license review and withdrew from the Southeast Compact. (For additional information, see the "Other Information" section below and the Southeast Compact page of this document.)

Development Costs To date: $112 million.

Disposal Facility Operational No date set.

Other Information On July 26, 1999, the State of North Carolina enacted legislation which, among other things,

(1) withdrew the state from the Southeast Compact, (2) limited the functions of the North Carolina LLRW Management Authority to closing and restoring the proposed disposal site in Wake County and finalizing closure and restoration by June 30, 2002, (3) directed the N.C. Radiation Protection Commission to develop a plan for complying with the state's responsibilities under federal low-level radioactive waste policy, and (4) prohibited the issuance

or consideration of a facility license prior to action by the General Assembly.

On December 9, 1999, the Southeast Compact Commission voted to impose sanctions on North Carolina for violations of the compact agreement, including the repayment of almost $80 million in funds given to the state for development of a regional facility, $10 million in lost future revenues, and an unspecified amount for attorney's fees. The commission resolved that the required amounts "shall be paid in full by July 10, 2000." North Carolina did not comply with the resolution.

On May 15, 2000, the North Carolina Radiation Protection Commission submitted a report to the General Assembly recommending a new plan for low-level radioactive waste management in the state. Among other things, the report

(1) advocates a change in national low-level radioactive waste disposal policy, (2) endorses opening the disposal market to private industry, and (3) finds that a central disposal facility in the state is not needed as long as access to treatment facilities and the Envirocare of Utah (now known as Energy*Solutions*) disposal facility in Clive, Utah remains available, but notes that disposal capacity for Class B and C waste is needed. Subsequently, the North Carolina Low-Level Radioactive Waste Management Authority permanently shut down.

Contact Beverly Hall, Radiation Protection Section, Department of Environment and Natural Resources, State of North Carolina, 3825 Barrett Drive, Raleigh, NC 27609-7221 (phone – 919/571-4141; fax – 919/571-4148; Beverly.hall@ncmail.net; www.ncradiation.net)

District of Columbia

Regulatory Responsibility Department of Health (DOH)

Program Responsibility Bureau of Food, Drug and Radiation Protection, Department of Health

Current Waste Management Use of the Energy*Solutions'* commercial Class A, B and C LLRW disposal facility in Barnwell, SC has been discontinued, as non-compact waste may no longer be accepted for disposal at Barnwell after June 30, 2008. Subject to the Northwest Compact's Third Amended Resolution and Order (approved April 20, 2006), certain Class A domestic-generated LLRW may be shipped for disposal at Clive, UT if it meets the license conditions for the Energy*Solutions'* facility. In addition, certain NARM wastes meeting the State of Washington's conditions can be shipped to US Ecology's commercial disposal facility in Richland, WA. Regional generators presently have no access for the disposal of Class B and C LLRW (and certain Class A waste streams), all of which must be stored at this time.

Siting Because of the dense population and geographic size of the District of Columbia, and because of the relatively low volume of low-level radioactive waste generated within its borders, DOH is not planning to site a facility. The District of Columbia is continuing efforts either to join a compact or to contract with one.

Contact Gregory B. Talley, Program Manager, Radiation Protection Division, Bureau of Food, Drug, and Radiation Protection, Environmental Health Administration, Department of Health, District of Columbia, 51 N Street, NE, Suite 6025, Washington,

D.C. 20002 (phone – 202/535-2320; fax – 202/535-1359; greg.talley@dc.gov; www.dchealth.dc.gov

Puerto Rico

Puerto Rico is not planning to site a disposal facility. Further information is unavailable at this time.

Rhode Island

Regulatory Responsibility Rhode Island Department of Health

Program Responsibility Rhode Island Atomic Energy Commission

Siting Responsibility none

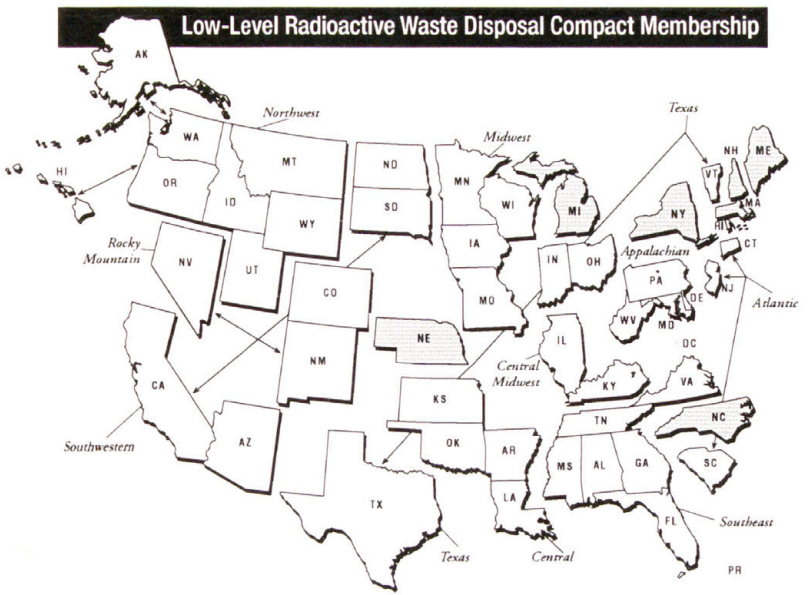
Other Involvement Rhode Island Radiation Advisory Commission

Current Waste Management Use of the Energy*Solutions'* commercial Class A, B and C LLRW disposal facility in Barnwell, SC has been discontinued, as non-compact waste may no longer be accepted for disposal at Barnwell after June 30, 2008. Subject to the Northwest Compact's Third Amended Resolution and Order (approved April 20, 2006), certain Class A domestic-generated LLRW may be shipped for disposal at Clive, UT if it meets the license conditions for the Energy*Solutions'* facility. In addition, certain NARM wastes meeting the State of Washington's conditions can be shipped to US Ecology's commercial disposal facility in Richland, WA. Regional generators presently have no access for the disposal of Class B and C LLRW (and certain Class A waste streams), all of which must be stored at this time.

Siting The state is not planning at this time to site a facility. The Rhode Island Atomic Energy Commission has assumed responsibility for low-level

radioactive waste management and compact participation from the Department of Environmental Management effective January 1996.

Contact Terrence Tehan, Director, Atomic Energy Commission, State of Rhode Island, 16 Reactor Road, Narragansett, RI 02882 (phone – 401/789-9391; fax – 401/782-4201; ttehan@gso.uri.edu)



Appalachian Compact

- Delaware
- Maryland
- Pennsylvania
- West Virginia

Texas Compact

- Texas
- Vermont

Unaffiliated States

- District of Columbia
- Maine
- Massachusetts
- Michigan
- Nebraska
- New Hampshire
- New York
- North Carolina
- Puerto Rico
- Rhode Island

Northwest Compact

- Alaska
- Hawaii
- Idaho
- Montana
- Utah
- Washington
- Wyoming

Midwest Compact

- Indiana
- Iowa
- Minnesota
- Mississippi
- Missouri
- Ohio
- Wisconsin

Southeast Compact

Alabama
Florida
Georgia
Tennessee
Virginia

Central Compact

Arkansas
Kansas
Louisiana
Oklahoma

Southwestern Compact

Arizona
California
North Dakota
Oregon
South Dakota

Central Midwest Compact

Illinois
Kentucky

Atlantic Compact

Connecticut
New Jersey
South Carolina

Rocky Mountain Compact

Colorado
Nevada
New Mexico

Northwest accepts Rocky Mountain waste as agreed between compacts