LEGISLATIVE RESEARCH COMMISSION

LOW-LEVEL RADIOACTIVE WASTE REGULATION

REPORT TO THE
1987 GENERAL ASSEMBLY
OF NORTH CAROLINA

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STATE OF NORTH CAROLINA
LEGISLATIVE RESEARCH COMMISSION
STATE LEGISLATIVE BUILDING
RALEIGH 27611

December 12, 1986

TO THE MEMBERS OF THE 1987 GENERAL ASSEMBLY:

The Legislative Research Commission herewith reports to the 1987 General Assembly on the matter of low-level radioactive waste regulation. The report is made pursuant to Chapter 1032 of the 1985 General Assembly (1986 Session).

This report was prepared by the Legislative Research Commission's Committee on Low-Level Radioactive Waste Regulation and is transmitted by the Legislative Research Commission for your consideration.

Respectfully submitted,

Liston B. Ramsey — J. J. (Monk) Harrington

Cochairmen
Legislative Research Commission

PREFACE

PREFACE

The Legislative Research Commission, authorized by Article 6B of Chapter 120 of the General Statutes, is a general purpose study group. The Commission is cochaired by the Speaker of the House and the President Pro Tempore of the Senate and has five additional members appointed from each house of the General Assembly. Among the Commission's duties is that of making or causing to be made, upon the direction of the General Assembly, "such studies of and investigation into governmental agencies and institutions and matters of public policy as will aid the General Assembly in performing its duties in the most efficient and effective manner." G.S. 120-30.17(1). The membership of the Legislative Research Commission is listed in Appendix A.

At the direction of the 1985 General Assembly, the Legislative Research Commission has undertaken studies of numerous subjects. These studies were grouped into broad categories and each member of the Commission was given responsibility for one category of study. The cochairmen of the Legislative Research Commission, under the authority of General Statute 120-30.10(b) and (c), appointed committees consisting of members of the General Assembly and the public to conduct the studies. Cochairmen, one from each house of the General Assembly, were designated for each committee.

The study of Low-Level Radioactive Waste Regulation was

authorized by Section 1 of Chapter 1032 of the 1986 Session Laws. That act states that the Commission may consider Senate Bill 882 in determining the nature, scope, and aspects of the study. Section 1 of Senate Bill 882 reads: "The Legislative Research Commission may study the regulation of low-level radioactive waste. Chapter 1032 and Senate Bill 882 are included in Appendix B.

The Legislative Research Commission grouped this study in its environment area under the direction of Representative Bruce Ethridge. The Committee was chaired by Senator Lura Tally and Representative John J. Hunt. The full membership of the Committee is listed in Appendix C of this report.

BACKGROUND

BACKGROUND

In December 1980, the United States Congress enacted the Low-Level Radioactive Waste Policy Act, which (1) declared that states were responsible for disposing of their own low-level radioactive waste, and (2) encouraged states to manage this waste by forming regional compacts. Following this federal legislation, the North Carolina General Assembly passed the Waste Management Act of 1981. In this Act the State recognized the need for safe management and disposal of low-level radioactive waste. The Act further encouraged the reduction of the amount of waste generated and the minimization of the amount of waste which requires disposal.

In further response to the Low-Level Radioactive Waste Policy Act, North Carolina became a member of the Southeast Interstate Low-Level Radioactive Waste Management Compact in 1983. The other Compact members are Alabama, Florida, Georgia, Mississippi, South Carolina, Tennessee, and Virginia. On September 11, 1986, the Southeast Compact Commission designated North Carolina to host the regional low-level radioactive waste disposal facility. The State will be responsible for selecting a site for the facility within its borders and for choosing a disposal technology.*

---

*The Governor's Waste Management Board, "Introduction to Low-Level Radioactive Waste Management" (1986).

In December 1985, Congress amended the Low-Level Radioactive Waste Policy Act by enacting the following target dates and sanctions:

1 July 1986 - States must join a compact or declare an intent to build a disposal unit within their own borders.

1 January 1988 - Each compact shall pick a state where its joint facility will be located. Each region or host state must develop a detailed plan and specific schedule to select a natural site and construct a disposal complex.

1 January 1990 - If a license application has not yet been filed, states must certify to the Nuclear Regulatory Commission those actions to be taken for managing their LLW (low-level waste) after 31 December 1992.

1 January 1992 - An application for a permit to operate a LLW disposal facility must be filed by the state or compact with the NRC or Agreement State.

1 January 1993 - Compacts where burial sites now operate - Southeast, Rocky Mountain, Northwest - may deny access to LLW shipped from outside their area. New compacts may curtail admission once their facilities begin operating. Other states - if unable to take possession of LLW produced inside their boundaries - must refund to generators part of some fees previously collected for disposal at operating sites.

1 January 1996 - If a new site is not operating, states must assume title, possession and liability for all LLW available for shipment within their borders. To help ensure these dead-lines are followed, surcharges ranging up to $120 per cubic foot may be imposed on LLW accepted by disposal facilities from producers outside their regions. Further delays may result in refusal of shipments at operating disposal sites. Incentives, on the other hand, include a partial rebate of surcharges collected by states with operating facilities to those states meeting timetables for locating and developing sites.*

In response to North Carolina's membership in the Southeast Compact Commission, the recognition that the State will most likely have a low-level radioactive waste disposal facility whether or not it remains in the Compact, and the need to amend the laws regulating low-level radioactive waste to effectively handle the siting, licensing, and operation of such a facility; Senate Bill 882 was introduced during the 1986 Session authorizing the Legislative Research Commission to study the regulation of low-level radioactive waste. The study was thereafter authorized by Chapter 1032, with reference to Senate Bill 882.

*George D. Russ, Jr., "Low Level Radioactive Waste: Building a Perspective" (1986).

COMMITTEE PROCEEDINGS

COMMITTEE PROCEEDINGS

The Committee met in the Legislative Building on the following dates: 16 October 1986, 24 November 1986, and 1 December 1986.

October 16, 1986 Meeting

At the Committee's organizational meeting, the members were briefed on the purpose of the Committee and given an overview of the work of the various committees within state government that are also looking at low-level radioactive waste disposal. The Committee also received an update on the work of the Southeast Compact Commission, a review of low-level radioactive waste legislation in other states, the role of the Governor's Waste Management Board and the position of the Conservation Council on low-level radioactive waste regulation.

Mr. Dayne Brown, Chief of the Radiation Protection Section within the Department of Human Resources, explained the present responsibilities and programs of the Section. One of these responsibilities is the licensing and regulation of low-level radioactive waste facilities. The Department also has authority to impose fees on low-level radioactive waste disposal facility operators and place these fees in the Nonreverting Radiation Protection Fund. The money would be used to finance the long term or perpetual responsibilities of the State. At the present time there is no money in this Fund. Mr. Brown further pointed out that there is no authority granted to any State agency or official to specify the number of low-level waste facilities the State will have. See Appendix D for a copy of Mr. Brown's remarks.

Dr. Raymond Murray, Chairman of the Subcommittee on Low-Level Radioactive Waste Management of the North Carolina Radiation Protection Commission, informed the Committee that the task of his Subcommittee is to recommend regulations to the Radiation Protection Commission. Dr. Murray pointed out that the Radiation Protection Commission, under an agreement with the Nuclear Regulatory Commission (NRC), must adopt rules regarding low-level radioactive waste disposal facilities that are substantially equivalent to the NRC's rules as codified in the Code of Federal Regulations, Title 10, Part 61. The Radiation Protection Commission, with the help of Dr. Murray's Subcommittee, is looking at draft rules and the comments that were raised at a series of public meetings on these draft rules. Dr. Murray also cited the following topics for consideration by the Committee:

1. There needs to be a state organization empowered to carry out the site selection process for a disposal facility.
2. There needs to be a two-step licensing process for a facility. Such a process would require the applicant to first satisfy the requirments for financial strength and technical capabilities.
3. The State should be prepared to act on the establishment of a low-level waste disposal facility if it turns out that there are no interested or qualified commercial organizations.
4. The problem of funding the State's role in the low-level waste effort must be addressed.
5. A mechanism is needed for public participation in the

process of selection, establishment, and operation of a waste facility.

See Appendix E for a copy of Dr. Murray's remarks, suggested legislation, and a summary of comments from the public hearings.

Captain William Briner, one of North Carolina's two delegates to the Southeast Compact Commission, gave an overview and update on the Commission's work. He indicated that there will be a waste disposal site in North Carolina whether or not the State remains in the Compact because of the amount of waste requiring disposal. Captain Briner stated that a positive factor for North Carolina hosting the facility now is that the volume of waste for disposal is less than it will be later. The Compact facility will be limited to 32 million cubic feet of waste or a period of twenty years, whichever comes first. In response to questions from the Committee concerning precautions that could be taken to prevent states from withdrawing from the Compact, Captain Briner indicated that he is chairing an ad hoc committee within the Compact Commission to consider sanctions. Captain Briner also informed the Committee that the Compact Agreement requires volume reduction of waste by the party states.

Mr. Edward Helminski, Publisher of "Radioactive Exchange", a radioactive waste periodical, discussed what other states are doing to regulate and site radioactive waste facilities. Some of the key areas states have examined in developing criteria for site selection are money and fees, environmental criteria, public health and safety criteria, local control and oversight, and economic incentives. Mr. Helminski commented on the legislative

efforts in New York, Colorado, Pennsylvania, Illinois, and Texas. Copies of this legislation can be found in the Committee Notebook in the Legislative Library.

Mr. James Stephenson, Vice-Chairman of the Special Interdisciplinary Committee on Low-Level Radioactive Waste, explained that the Committee was formed by the Secretary of the Department of Human Resources to consider recommendations and draft legislation concerning site criteria and mechanisms. The Interdisciplinary Committee has appointed various subcommittees that are looking at a budget and tariffs, the operation of a site by the State or an independent contractor, the selection of an entity to handle siting, and public participation.

Mr. John Runkle, counsel for the Conservation Council of North Carolina, presented the Council's position on low-level radioactve waste management. Mr. Runkle's remarks are contained in Appendix F.

Dr. Linda Little, Executive Director of the Governor's Waste Management Board, gave a comprehensive explanation of the Board's functions and noted that the Board favors North Carolina remaining in the Compact. She explained that the Board is neither a regulatory nor siting board but can make suggestions on the siting process.

November 24, 1986 Meeting

Ms. Martha Walston, Committee Counsel, provided the Committee with information requested at the last meeting. This information included the surcharges, fees, and taxes assessed against the Chem-Nuclear Plant in Barnwell, South Carolina. A copy of this information is in Appendix G.

Dr. Earl Mac Cormac, Science Advisor to the Governor and Executive Director of the North Carolina Board of Science and Technology, then addressed the Committee. He indicated that the Governor encourages as much local participation as possible in the siting of a low-level radioactive waste disposal facility. Dr. Mac Cormac added that the Governor will recommend to the Legislature that North Carolina accept the Southeast Compact Commission designation as the host state with two caveats. The first caveat is that the Compact be amended to prevent a state's withdrawal from the Compact after January 1, 1995 without severe penalty. The second caveat is that an adequate tariff schedule be enacted for the surcharges on low-level radioactive waste received in North Carolina. Dr. Mac Cormac added that the Governor feels that a host community should be compensated substantially.

The Committee then reviewed legislation giving the Radiation Protection Commission authority to adopt and develop criteria and standards for locating and permitting a low-level radioactive waste facility. The Committee then approved the legislation as amended. The Committee also voted to recommend legislation amending the licensing process, legislation requiring engineered barriers at any low-level radioactive waste disposal facility, prohibition of licensing of more than one commercial low-level radioactive waste facility in the State as long as North Carolina is a member of the Southeast Compact, a study of a fee structure for low-level radioactive waste disposal, and the enactment of legislation requiring volume reduction of low-level radioactive waste.

December 1, 1986 Meeting

At its final meeting, the Committee voted to recommend legislation which would amend the Radiation Protection Act by (1) adding definitions for "engineered barrier" and "shallow land disposal", (2) prohibiting shallow land burial of low-level radioactive waste, (3) requiring engineered barriers in the design of any near-surface disposal facility, and (4) requiring the bottom of any near-surface disposal facility to be at least 10 feet above the seasonal high water table and more when necessary to protect the public health and environment. The Committee then adopted this report.

FINDINGS AND RECOMMENDATIONS

FINDINGS AND RECOMMENDATIONS

RECOMMENDATION 1: The North Carolina General Assembly should amend the powers of the Radiation Protection Commission to provide for the development and adoption of criteria and standards for the location and permitting of low-level radioactive waste facilities. (See Appendix H.)

The current North Carolina law does not set out criteria and standards for siting a low-level radioactive waste facility; however, the General Assembly has taken the initiative in providing for such criteria and standards in siting a hazardous waste facility (G.S. 130A-294). The Committee finds that the development of criteria and standards in siting a low-level radioactive waste facility is necessary to protect the health of the citizens of this State and to protect the environment. In light of North Carolina's selection as the host state by the Southeast Compact Commission, this legislation becomes even more imperative.

RECOMMENDATION 2: The North Carolina General Assembly should amend the licensing process under the Radiation Protection Act by first requiring the applicant to satisfy the Department of Human Resources of his financial and technical capabilities. (See Appendix H.)

This legislation would amend G.S. 104E-10.1 of the Radiation Protection Act to require that approval of a low-level radioactive waste facility permit be contingent upon the applicant first satisfying the Department of Human Resources that:

(1) Any low-level radioactive waste facility heretofore constructed or operated by the applicant (or any parent or subsidiary corporation if the applicant is a corporation) has been operated in accordance with sound waste management practices and in substantial compliance with federal and State laws and regulations; and

(2) The applicant (or any parent or subsidiary corporation if the applicant is a corporation) is financially qualified to operate the subject low-level radioactive waste facility.

This licensing procedure would spare both the applicant and the reviewing agency time, effort, and expense in preparing and reviewing the application.

RECOMMENDATION 3: If North Carolina decides to remain in the Southeast Interstate Compact for Low-Level Radioactive Waste Management and a regional low-level radioactive waste facility is constructed in the State, then no other commercial low-level radioactive waste facility should be licensed in the State.

The Committee finds that one of the major reasons for joining the Compact is that the Low-Level Waste Policy Act of 1980 provides exclusionary authority to restrict waste generated outside the Compact region. The North Carolina Attorney General, in a recent letter, concluded that a non-compact state may be required to accept waste in its disposal facility from all other states without a disposal facility; however, there may be few states that would actually use a North Carolina facility. Furthermore a non-compact state would need to have a facility operating in perpetuity. Currently there is no authority granted to any State agency or official to limit the number of low-level radioactive waste facilities in the State. The General Assembly should therefore consider limiting the number of facilities in the State.

RECOMMENDATION 4: Legislation should be enacted giving the Radiation Protection Commission authority to enforce volume reduction of low-level radioactive waste as a condition of providing access to a low-level radioactive waste facility. The Department of Human Resources should impose fees that would encourage volume reduction.

The General Assembly, in the Waste Management Act of 1981, encouraged the reduction of the amount of low-level radioactive waste generated and the minimization of the amount of waste which requires disposal. The Southeast Compact also provides for volume reduction. The language in the Compact provides that "(e)ach party state shall, to the extent authorized by federal law,

require generators within its borders to use the best available waste management technologies and practices to minimize the volume of wastes requiring disposal." To ensure volume reduction, the General Assembly should consider giving the Radiation Protection Commission some method of enforcement authority.

RECOMMENDATION 5: A study should be conducted on a fee structure for low-level radioactive waste disposal. This study should examine the need for fees, the types of fees to be authorized, and incentives derived from fees.

There is currently no statutory authority to set fees as incentives for a community or county to host a facility. The Committee finds that the establishment of such fees is vital in obtaining local support for a facility.

RECOMMENDATION 6: The General Assembly should amend the Radiation Protection Act to prohibit shallow land burial of low-level radioactive waste and to require engineered barriers at any near-surface disposal facility. (See Appendix H.)

The Radiation Protection Commission has recently accepted a rulemaking petition by the North Carolina Conservation Council which would prohibit conventional shallow land burial in the State and require engineered barriers to prevent the migration of radioactive wastes. The draft regulations now under consideration define "shallow land burial" as "below ground interment of low-level radioactive waste at depths typically up to 16 meters and in

a manner which relies predominantly upon hydrogeological characteristics of the burial site, along with properties of soil and natural trench liners or caps, for limiting future infiltration of water and migration or release of radioactive material." The inclusion of engineered barriers is not a feature of conventional shallow land burial. The draft rules define "engineered barrier" as a "man-made structure or device that is designed to improve the land disposal facility's ability to exceed the performance objectives in this Section." The draft rules cite the following as performance objectives: protection of population from releases of radioactivity, protection of individuals from inadvertent intrusion, protection of individuals during operations, and stability of the disposal site after closure.

A state plan for managing low-level wastes, developed by North Carolina's commissioners to the Southeast Compact, also requires engineered barriers. The plan states, "If shallow land burial is the only alternative for land disposal, the design for such a burial facility shall, as a minimum, incorporate engineered barriers to migration of the wastes."

The legislation recommended by the Committee sets out definitions of "engineered barrier" and "shallow land burial" in the Radiation Protection Act and prohibits shallow land burial. The recommended legislation further requires that engineered barriers be incorporated in the design of any near-surface disposal facility and that the bottom of the disposal facility be at least 10 feet above the seasonal high water table and more when necessary to protect the public health and environment.

APPENDIX A

LEGISLATIVE RESEARCH COMMISSION

Senator J. J. Harrington, Cochairman
Senator Henson P. Barnes
Senator A. D. Guy
Senator Ollie Harris
Senator Lura Tally
Senator Robert D. Warren

Representative Liston B. Ramsey, Cochairman
Representative Christopher S. Barker, Jr.
Representative John T. Church
Representative Bruce Ethridge
Representative Aaron Fussell
Representative Barney Paul Woodard

APPENDIX B

GENERAL ASSEMBLY OF NORTH CAROLINA

1985 SESSION (REGULAR SESSION, 1986)

RATIFIED BILL

CHAPTER 1032
HOUSE BILL 2141

AN ACT AUTHORIZING STUDIES BY THE LEGISLATIVE RESEARCH COMMISSION, AND TO MAKE OTHER AMENDMENTS AFFECTING THE RAILROAD NEGOTIATING COMMISSION.

The General Assembly of North Carolina enacts:

Section 1. Studies Authorized. The Legislative Research Commission may study the topics listed below. Listed with each topic is the 1985 bill or resolution that originally proposed the issue or study and the name of the sponsor. The Commission may consider the original bill or resolution in determining the nature, scope and aspects of the study. The topics are:

(1) Uniform System of Voting Machines (H.B. 1664 - Wood),

(2) Adolescent Pregnancy and Premature Births (H.B. 2078 - Jeralds),

(3) Low-Level Radioactive Waste Regulation (S.B. 882 - Tally),

(4) Campaign and Election Procedures (S.B. 1002 - Martin, W.)

(5) Veterans Cemetery Study (H.B. 2117 - Lancaster).

Sec. 2. Transportation Matters. The Legislative Research Commission may study the actions proposed in the following portions of Senate Bill 866 of the 1985 General Assembly as introduced by Senator Redman:

Part I
Parts VII through XIII, and
Part XV.

Sec. 3. Reporting Dates. For each of the topics the Legislative Research Commission decides to study under this act or pursuant to G.S. 120-30.17(1), the Commission may report its findings, together with any recommended legislation, to the 1987 General Assembly.

Sec. 4. Bills and Resolution References. The listing of the original bill or resolution in Sections 1 through 3 of this act is for reference purposes only and shall not be deemed to have incorporated by reference any of the substantive provisions contained in the original bill or resolution.

-----EXTEND COMPLIANCE WITH VOTING ACCESSIBILITY FOR THE ELDERLY AND HANDICAPPED ACT.

Sec. 4.1. Section 4 of Chapter 4, Session Laws of the Extra Session of 1986 is amended by deleting "October 1, 1986" and substituting "July 1, 1987".

-----RAILROAD NEGOTIATING COMMISSION AMENDMENTS.

Sec. 5. Section 15.4(b) of Chapter 792, Session Laws of 1985 is rewritten to read:

"(b) The cochairmen of the Commission may appoint an executive committee for such purposes as determined by the Commission."

Sec. 6. The first sentence of Section 13.7(4) of Chapter 792, Session Laws of 1985 is repealed.

Sec. 7. Section 13.8 of Chapter 792, Session Laws of 1985 is amended by adding the following at the end:

"The Boards of Directors of the railroads (or the Board of Directors of the railroad, if the two railroads are merged or combined) each should appoint a negotiating committee to conduct negotiations concerning the leases. If such committees are established, the Commission shall designate two or more of its members (other than the Commission members appointed under subdivisions (6) and (7) of Section 13.2 of this act) who may attend the negotiating sessions of each railroad, without a vote; provided that if the two railroads are not merged or combined, no person so designated may attend the negotiating sessions of both railroads."

Sec. 8. Section 13.10 of Chapter 792, Session Laws of 1985 is repealed.

Sec. 9. Section 13.14 of Chapter 792, Session Laws of 1985 is rewritten to read:

"Sec. 13.14. The Commission shall advise the Governor and General Assembly of its opinion as to whether the Governor should vote his proxy to approve any lease negotiated by the Board of Directors of each railroad, or the Board of Directors of a merged or combined railroad, if such lease requires shareholder approval, and shall advise the Council of State whether it should approve the lease under Chapter 124 of the General Statutes."

Sec. 10. Section 13.15 of Chapter 792, Session Laws of 1985 is amended by adding the following immediately before the period at the end: ", and shall recommend the same to the Governor, in the exercise of his executive function of disposing of property. In any vote on whether the stock held by the State should be sold, the members appointed under subdivisions (6) and (7) of Section 13.2 of this act would be invited to attend the meetings in this regard and to offer the Commission advice and opinion, but would not be entitled to vote."

Sec. 11. Article 6A.1 of Chapter 120 of the General Statutes is amended by adding a new section to read:

"§ 120-30.9H. Decision letters of U. S. Attorney General published in North Carolina Register.--All letters and other documents received by the authorities required by this Article to submit any 'changes affecting voting' from the Attorney General of the United States in which a final decision is made concerning a submitted 'change affecting voting' shall be filed with the Director of the Office of Administrative Hearings. The Director shall publish the letters and other documents in the North Carolina Register."

Sec. 12. G.S. 150B-63(d1) is amended by adding between the words "information" and "relating" the words "required by law to be published in it, and information".

Sec. 12.1. Chapter 792 of the 1985 Session Laws (First Session, 1985) is amended by adding the following to Section 11.7:

"Upon the approval of the Legislative Services Commission, additional expenses of the Study Commission on State Parks and

Recreation Areas shall be paid from funds appropriated to the General Assembly for the 1986-87 fiscal year."

Sec. 12.2. Used Tire and Waste Oil Disposal. The Legislative Research Commission may study problems surrounding the environmentally safe disposal of used tires and waste oil and their possible solutions.

Sec. 13. This act is effective upon ratification.

In the General Assembly read three times and ratified, this the 16th day of July, 1986.

ROBERT B. JORDAN III
Robert B. Jordan III
President of the Senate

LISTON B. RAMSEY
Liston B. Ramsey
Speaker of the House of Representatives

GENERAL ASSEMBLY OF NORTH CAROLINA
SESSION 1985

S

I

SENATE SB882

Short Title: Low-level Waste Study. (Public)

Sponsors: Senators Tally, Parnell; Rand, Ward, Hipps, Staton,*

Referred to: Rules and Operation of the Senate.

June 10, 1986

A BILL TO BE ENTITLED

AN ACT APPROPRIATING FUNDS FOR A LEGISLATIVE RESEARCH COMMISSION STUDY ON REGULATION OF LOW-LEVEL RADIOACTIVE WASTE.

The General Assembly of North Carolina enacts:

Section 1. The Legislative Research Commission may study the regulation of low-level radioactive waste.

Sec. 2. There is appropriated from the General Fund to the General Assembly, Legislative Research Commission, the sum of eight thousand dollars ($8,000) for the 1986-87 fiscal year to study the regulation of low-level radioactive waste.

Sec. 3. This act shall become effective July 1, 1986.

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*Additional Sponsors: Winner, Watt, Warren, Barnes, Walker, Hunt of Moore, Harrington, Speed, Guy.

APPENDIX C

L.R.C.

LOW-LEVEL RADIOACTIVE WASTE REGULATION

STUDY COMMITTEE

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APPENDIX D

APPENDIX D

LOW-LEVEL RADIOACTIVE WASTE MANAGEMENT
RADIATION PROTECTION SECTION ROLE

Radiation Protection Section
Division of Facility Services
Department of Human Resources

October 15, 1986

Background

Under the Radiation Protection Act and an agreement with the U.S. Nuclear Regulatory Commission, the Radiation Protection Section for the Department of Human Resources is responsible for the State's comprehensive radiation protection program. Since 1964 the Section has been responsible the State's sole radiation program, except for the Department's program for enforcement of drinking water standards which include radioactivity limits and the Department of Natural Resources and Community Development involvement with enforcement of Environmental Management Commission ambient air and water standards which include radioactivity limits.

The Section's present responsibilities and programs include:

1. X-ray Regulation

   Under Radiation Protection Commission rules, the Section maintains a registration, inspection and enforcement program for all non federal X-ray equipment. This encompasses nearly 4,000 facilities with 10,000 X-ray machines, the majority of which are for healing arts or human use. These activities and associated rules are directed at

   a. occupational radiation protection,
   b. public and patient radiation protection, and
   c. control of receipt, possession, use, transfer and disposal of X-ray producing machines.

   Under Department rules all registrants pay annual fees to support the inspection, enforcement and related aspects of this program.

2. Radioactive Material and Accelerator Facility Regulation

   Under Radiation Protection Commission Rules and an agreement with the U.S. Nuclear Regulatory Commission, the Section is responsible for licensing, inspection and enforcement for all radioactive material and accelerator facilities, except for federal agencies and nuclear reactors. This encompasses over 800 facilities which are presently authorized to have radioactive material. These activities and associated rules are directed at

a. occupational radiation protection,
b. public and patient radiation protection, and
c. control of receipt, possession, use, transfer and disposal of radioactive material and accelerators.

Except as authorized by Commission rules, no person may receive, possess, use, transfer or dispose of radioactive material unless authorized to do so by a radioactive material license issued by the Section. The Section will not issue such a license until the applicant demonstrates

a. adequate trained personnel;
b. adequate facilities, equipment and procedures for possession, handling, control, transfer, and disposal of all radioactive material;
c. ability to comply with all Commission rules;
d. assurance that workers, public and environment are protected from radiation hazard; and
e. means for disposal of all radioactive material.

The inspection, enforcement and related aspects of this program are supported by annual fees imposed by the Department on all licensees.

3. Environmental Radiation Monitoring

The Section maintains the State's only environmental radiation monitoring and surveillance program with laboratory analyses performed by the Department's central laboratory. This program's monitoring and surveillance programs fall into the following categories:

a. major nuclear facilities

The Section presently maintains environmental surveillance programs for the Brunswick Nuclear Plant, the McGuire Nuclear Station, the Shearon Harris Nuclear Plant and the General Electric Reactor Fuel Manufacturing facility in Wilmington. At such time as a low-level radioactive waste facility may be licensed, it would be deemed to be a major nuclear facility and would be the subject of an extensive environmental radiation surveillance program.

b. other facilities

The Section also maintains surveillance programs for a variety of other facilities. These include: four closed private low-level radioactive waste disposal sites formerly operated by four universities, two phosphate mining/milling facilities with potential naturally occurring radioactive material problems, several Section licensees with potential radiological impact on the environment, and a small reactor facility

at N.C. State University.

c. statewide monitoring

The Section maintains a statewide monitoring network to measure ambient radiation and radioactivity levels in air, water and other environmental media. This network is part of the surveillance program for detection of radioactive fallout from nuclear weapons tests and major events such as the recent Russian reactor accident.

d. Special Monitoring and Surveillance

As circumstances dictate at the time, the Section also conducts special monitoring and surveillance activities. Examples include: radioactive contamination at the Brunswick County Landfill in Southport, natural radiation and radioactivity phenomena such as indoor radon, stepped up monitoring for fallout during major events, Wayne County nuclear weapons accident site, etc.

4. Radiation Emergency Response and Planning

The Section, under the coordination of the Department of Crime Control and Public Safety when two or more agencies are involved, is responsible for planned response to all radiation accidents and emergencies. The includes participation in periodic exercises which are required to demonstrate the ability of the State to respond to nuclear plant accidents. The Section typically responds to no more than 12 real radiation accidents per year, almost all of which are of negligible radiation significance. The nuclear plant aspect of this responsibility are partially supported through fees imposed on nuclear utilities.

The Section presently has an authorized total staff of 26 positions and an underlying continuing budget of around $900,000 annually. Of this amount about 40 percent is supported by fee revenues imposed on licensees, registrants and nuclear plants.

Present Licensing Process and Regulatory Requirements

Under the present Radiation Protection Act and rules of the Radiation Protection Commission, licensing of a low-level radioactive waste facility would be conducted in accordance with the following procedure:

1. Upon receipt of a radioactive material license application, the Section would

a. notify local government in the county or municipality where the applicant proposes to locate the facility

within five days after receipt of the application as require by the Radiation Protection Act;

b. initiate review of the application and provide copies to interested State and federal agencies with a request for review and comment;

c. investigate and evaluate the applicant's past track record with other low-level radioactive waste facilities as required by the Radiation Protection Act;

d. investigate and evaluate the applicant's financial qualifications as required by the Radiation Protection Act;

e. request and evaluate additional information from the applicant as required to determine adequacy of the application;

f. issue public notice and hold a public hearing on the application in the county where the applicant proposes to locate the facility as required by the Radiation Protection Act;

g. establish the amount of bond, insurance and other security required in accordance with the Radiation Protection Act and the rules of the Radiation Protection Commission;

h. upon completion of application review, make the initial agency decision to either issue or deny the license and provide notice of that decision to the applicant and to the public;

i. deal with challenges to the initial agency decision in accordance with the Commission's contested case procedures and the provisions of the Administrative Procedures Act; and

j. if a decision for issuance were ultimately upheld or a decision for denial were ultimately reversed, conduct inspections throughout the construction and preoperational phase to determine when to authorize receipt of any radioactive material at the site and commencement of any other operations.

The Section must render a decision to issue the license and permit operation only if the Section determines that

a. the applicant has an acceptable track record with respect to any low-level radioactive waste facilities heretofore constructed or operated;

b. the applicant is financially qualified to construct and

operate the proposed facility;

c. the applicant has adequate trained personnel to operate the facility in accordance with the rules of the Commission and terms of the license;

d. the applicant possess adequate facilities and equipment to meet all regulatory requirement and to protect the applicant's workers, the public and the environment;

e. the applicant's emergency and operating procedures are adequate to ensure compliance with all regulatory requirements and to protect the applicant's workers, the public and the environment;

f. the land is owned by either the State or federal government, if a disposal facility is proposed;

g. the applicant has proposed and will maintain an adequate environmental monitoring program;

h. the applicant has proposed an acceptable site closure plan;

i. the applicant posts and maintains a bond, insurance or other security acceptable to the Department under the Radiation Protection Act as required by the Department;

j. the applicant will maintain releases of radioactive material and radiation dose to the public below the limits established in the rules of the Commission and at levels which are as low as reasonably achievable; and

k. issuance of the license will not endanger public health and safety or the environment.

Conversely, the Section must render a decision to deny the license, if the Section is not satisfied in one or more of the above issues. The initial decision of the Section becomes a final agency decision if the decision is not contested. If the decision is contested, the appeal is heard in accordance with Commission contested case procedures and the Administrative Procedures Act and the final agency decision is rendered by the Radiation Protection Commission. The final agency decision is subject to further appeal to superior court; however, the Department and Section are bound by the final agency decision and may not appeal that decision.

In the event that the facility will handle "mixed (hazardous and radioactive) waste" as defined by the U.S. Environmental Protection Agency, the facility would also be subject to permitting by the Hazardous Waste Program of the Department of Human Resources. In addition, the facility would be subject to

any applicable ambient air quality and water quality standard of the Environmental Management Commission and may be subject to permitting or approval requirement of the Department of Natural Resources and Community Development.

Because of the likely regulatory and permitting involvement of multiple State agencies, the Governor has designated his Science adviser as the coordinator of all licensing and permitting for any low-level radioactive waste facilities. Accordingly, the above licensing procedure would be carried out under a single, high level Administration coordinator, as would other related permitting.

Future Rulemaking

Heretofore, the Radiation Protection Commission has adopted comprehensive rules governing licensing and regulation of the receipt, possession, use, transfer and disposal of radioactive material. As required by our agreement with the U.S. Nuclear Regulatory Commission these rules are consistent and compatible with the rules of the NRC. The existing rules are at least as restrictive as those of the NRC and may be more restrictive in some cases. The one exception is the fact that the Radiation Protection Commission has not, to date, adopted rules for disposal of radioactive waste which are substantially equivalent to the NRC's as codified in 10 CFR Part 61. Under our agreement with the NRC, the Commission must adopt equivalent rules if the State intends to license a low-level radioactive waste disposal facility. Accordingly the existing rules in 10 NCAC 3G, are not adequate to address licensing of such facilities at this time.

Under existing statutory authority and in light of the likelihood that the Section will have to license a low-level radioactive waste disposal facility in the future, the Commission is in the process of developing draft rules (copy attached) which specifically address the licensing, operation, monitoring and closure of low-level radioactive waste disposal facilities.

Having completed a series of six public meetings across the State on the draft rules, the Section and the Commission are presently in the process or revising the draft rules to reflect public and other comments which have been received. It should be noted that the draft rule do reflect provision in a petition for rulemaking filed by the Conservation Council of North Carolina as accepted by the Commission at its last meeting.

The draft rule presently address:

License requirements
Commencement of major construction
Content of the application to include specific technical information, environmental information, technical and environmental analyses, and institutional information
Application filing and distribution

Standards for issuance of a license
Conditions of a license
Amendment and renewal of a license
Applications for closure of site
Postclosure observation and maintenance
Transfer of license
Termination of license
Performance objectives and general requirements
Technical requirements for land disposal facilities
including: the prohibition of conventional shallow land burial, the requirement for engineered barriers, restriction on releases to the environment and radiation dose to the public, facility operation, disposal site closure, and environmental monitoring
Applicant qualifications and assurances
Funding of closure, stabilization and institutional controls
Records, reports, tests and inspections

It is anticipated that the draft rules will be finalized in time for the required public rulemaking hearing by February 1987. With timely subsequent action by the Radiation Protection Commission, the rules should be adopted and effective by about June 1987.

Also under existing statutory authority, the Department of Human Resources must adopt annual fees to be paid by low-level radioactive waste facilities to meet the anticipated costs to the Department for inspection, monitoring and enforcement. It is anticipated that the resulting annual fee could be several hundred thousand dollars per year. Such fees are permissible under existing Departmental authority, subject to provisions of the Administrative Procedures Act.

The Radiation Protection Act established a non lapsing Radiation Protection Fund and granted authority to the Department of Human Resources to impose fees on low-level radioactive waste disposal facility operators to place monies into that Fund to finance the long term or perpetual responsibilities of the State. The Department will have to begin rulemaking to establish such fees in the near future. It is anticipated that the amount of monies required to cover such future costs to the State would be measured in tens of millions of dollars.

APPENDIX E

1.

DEVELOPMENT OF REGULATIONS FOR LOW-LEVEL RADIOACTIVE WASTE MANAGEMENT*

Raymond L. Murray

Thank you for inviting me to give this report on our progress. The task of the Subcommittee on Low-Level Radioactive Waste Management of the North Carolina Radiation Protection Commission is to recommend regulations to the Commission. We have been working on regulations related to low-level waste for about a year. What are adopted depends on several factors, as follows:

First, we are obligated, as an Agreement State with the Nuclear Regulatory Commission, to adopt 10 Energy Code of Federal Regulations Part 61, abbreviated 10CFR61. The staff of the Radiation Protection Section has effected the necessary translation of 10CFR61 into North Carolina format.

Second, our Commission received in February a formal petition from the Conservation Council of North Carolina including a number of recommended regulations. After a thorough review, we accepted the part that dealt with

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*Presentation to the LRC Study Committee on Low-Level Waste Regulation of the North Carolina General Assembly, October 16, 1986.

shallow land burial, stating that we would require engineered barriers to prevent the migration of radioactive wastes. We also accepted a large number of site-specific items. However, we rejected the concept of storing wastes at the generator's location.

Third, in September, we held a series of public meetings in cooperation with the Radiation Protection Section and the Governor's Waste Management Board. These were at Greenville on the 9th, Fayetteville on the 11th (we wish to thank Senator Tally for her fine participation in that meeting), Asheville on the 15th, Charlotte on the 16th, Greensboro on the 18th, and Research Triangle Park on the 25th. In general, the meetings were well attended, there was some sprited discussion, and many views were expressed. Out of the meetings came a clear message that there were public concerns. We realize that these were accentuated by the Bladen County incinerator affair, DOE's search for a high-level waste repository site, and in the case of this area, the startup of the Harris nuclear plant. We are still in the process of discussing the many issues that were raised. Dayne Brown and I put together a brief summary of the principal public comments, a copy of which is available to you. Our subcommittee members and the many resource persons who are working with us have identified some other matters that are outside our scope and are in

the legislative/administrative area. I should like to report on how our thinking is going along these lines. Whether to stay in the Southeast Compact or to withdraw is of course a very important decision. Some of the advantages and disadvantages have been provided in the Ebasco report.

The recommendation that wastes be stored at the generator's facilities has come to us again. Our subcommittee has rejected the concept for a number of reasons.

The topic that appears to be most important is siting. It is believed that there should be an active and well-organized state participation in the site selection process. There is concern about the ability of the state to control the situation if a commercial organization applies for a license. There are several facets of the problem. First is the need to avoid multiple sites. Clearly one is enough. Second, it would be very desirable to have a review of an applicant's financial status and technical qualifications prior to receiving a formal application, in view of the great time and effort on the part of the applicant and the reviewer. Third, there seems to be a need for an organization empowered to carry out the site selection process in a fair and efficient manner.

An important related question is the nature of the public participation in the siting. It is possible that providing an opportunity for a community to veto placement of a site would make it impossible to find a site. There is

sentiment in favor of public participation in the eventual operation of the facility, for example by monitoring, even a desire to have authority to shut it down. A decision is needed on what tangible benefits to a host county or community are appropriate.

There will be a major problem in funding the extensive task of site selection and the thorough review of one or more applications. This state function cannot be funded by the Compact Commission. Already, the state has devoted a considerable amount of resources to the matter. It is felt that all costs ought to be recovered. If the application fee is reasonable, it may not be adequate. It is generally believed that users of the facility should pay for its establishment rather than taxpayers.

I will be happy to try to answer any questions you may have. Thank you.

LEGISLATION TO CONSIDER

This informal note is provided for the use of the LRC Study Committee on Low-Level Radioactive Waste Regulation in its discussions of a disposal facility. The thoughts are based on observations at public meetings held by the Radiation Protection Commission and discussions in its subcommittee on LLW. Recommendations will come later from the Special Interdisciplinary Committee on Low-Level Radioactive Waste Management of the Department of Human Resources.

1. The most urgent need seems to be the establishment of a state organization to plan and supervise the site selection process, a most sensitive operation indeed. Under present laws, a commercial organization can make an application for a license to build a facility and can select a site that it believes is suitable. The repercussions of such action could be much greater that those in Bladen County in connection with the attempt to site a LLW incinerator.

Whether a separate agency or a task force of knowledgeable people drawn from various departments should have the responsibility to carry out the siting operation is a matter for consideration. In any case, the unit needs to have both authority and responsibility.

The question should be raised as to the mechanism for monitoring the project in later stages--design,

construction, initial operation, full operation, closure, and institutional care for the subsequent period of 100 years. According to federal regulations, perpetual care is not required. Some of the same technical expertise is required for the longer-term supervision by the State as for the siting study, but there is a much different time scale involved. In any case, people are going to be committed for a considerable period.

2. A two-step licensing process would be a useful device. The first part would involve information on the financial strength and technical capabilities and experience of the prospective applicant. On review and acceptance of this part, the State would authorize the applicant to supply the detailed plan of action. This procedure would spare both the applicant and the reviewing agency time, effort, and expense, for the preparation and review of a lengthy proposal.

An alternative that might serve the same purpose would be to require an initial request for approval to submit an application for license.

3. The State should be prepared to act on the establishment of a low-level waste disposal facility if it turns out that there are no interested or qualified commercial organizations. In that event, the role of the State would expand greatly. Since there are time deadlines involved, it might be desirable to empower the agency or agencies that do siting and oversight to carry out the

LEGISLATIVE AND ADMINISTRATIVE ISSUES IN LOW-LEVEL RADIOACTIVE WASTE DISPOSAL

Dayne H. Brown, Radiation Protection Section
Raymond L. Murray, Radiation Protection Commission

A series of public meetings to gain opinion on the regulations for low-level radioactive waste disposal was held in September 1986 by the North Carolina Radiation Protection Commission, the Governor's Waste Management Board, and the Radiation Protection Section. Dates and locations were as follows:

> Greenville on September 9; Fayetteville on September 11; Asheville on September 15; Charlotte on September 16; Greensboro on September 18; Research Triangle Park on Sepember 25.

A number of questions, comments and recommendations were presented by citizens, public interest groups, local government officials and industrial interests. Many of the issues raised are outside the scope of regulation and are more properly legislative or administrative in nature. For the consideration by those responsible, a summary of these principal issues is provided. Matters that seem to be of greatest concern are listed first.

1. Many people stated their belief that the State of North Carolina should withdraw from the Southeast Compact and establish a small disposal site for the State's waste only. A few supported the Compact and indicated that present-day burial was safe, environmentally sound and cost-effective. Some suggested that a referendum on low-level waste be held.

2. The Radiation Protection Commission was urged to reconsider its decision not to require low-level radioactive waste to be stored or disposed at or near nuclear power plants. Others opposed such storage in that it departed from the legislative intent reflected in our adoption of the Southeast Compact.

3. It was suggested that the low-level waste disposal site selection should be carried out by the State rather than by a prospective operating company. Early participation in the selection process by all state agencies was urged. Several commented in favor of actual operation of the site by some state agency. Clear designation was urged as to which responsibilities were assigned to which state agency, including which agency was responsible for the facility after it was closed for its perpetual maintenance.

4. It was felt necessary that affected citizens should participate in all aspects of the waste disposal siting process, including the ability to veto its location in the vicinity of a community. If this is not possible, citizens would like to participate in the siting choice, to have access to all records and be able to monitor independently.

5. Several people stated that burial of wastes in any manner should be prohibited, in favor of retrievable storage.

6. All costs of waste disposal should be borne by the generators, not the taxpayers. It was believed that all costs to the State that are related to waste disposal, including early planning, regulation and administration, should be recovered. Additionally, specific assurances were requested that insurance or other forms of financial surety be kept in place to pay for any damages to anyone.

7. Various opinions about location were advanced, including (a) not in the coastal plain, (b) near an interstate highway, (c) in the Research Triangle Park.

8. Sentiment was expressed for a two-step regulation process, in which the qualifications of a prospective operating company could be examined before accepting an application to build and operate a site.

9. Several felt that equity in siting facilities would be better served, if disposal or storage facilities were located in the counties or at the sites where most waste is generated; i.e., at the nuclear plants. This was frequently in conjunction with suggestions that the siting criteria should be set so as to allow location in higher population density areas where the wastes are generated and the benefits of jobs and tax base are enjoyed.

APPENDIX F

Baldwin

THE CONSERVATION COUNCIL OF NORTH CAROLINA

307 Granville Road, Chapel Hill, N.C. 27514
(919) 942-7935 or 942-1080 (24 hours)

October 22, 1986

Senator Lura S. Tally
3100 Tallywood Dr.
Fayetteville, NC 28303

Re: 10/16 Meeting of LRC Study Committee on Low-level Radioactive Waste Regulations

Dear Senator Tally:

I appreciated the opportunity afforded us by you and Representative Hunt to present the Conservation Council's position on the management of low-level radioactive waste (LLRW) at the committee meeting last week. The following is a summary of my remarks; I am sending a copy of this to the clerk to distribute to the other members of the committee.

1. Low-level vs. high-level--LLRW is defined as all radioactive waste that is not high-level (spent nuclear fuel and certain materials from processing). In other words, LLRW includes a broad range of radioactive material, from materials with short half-lives to very long-lived materials that remain toxic for hundreds and even thousands of years.

2. State responsibility—One of the important policy questions to be addressed is whether the State of North Carolina should be responsible for managing LLRW in the first place. The nuclear utilities generate 87 percent of LLRW by volume and 97 percent by radioactivity. Is it fair to put the burden of taking care of their LLRW for hundreds of years on the taxpayers?

Regardless of what should be done, the State through the Council of State is already in the LLRW business. Two weeks ago the Council allotted $100,000 for site selection of a LLRW facility; $75,000 to go for geology study including a review of the Southeast Compact Commission's Dames & Moore report (which selected 35 counties in North Carolina as potentially suitable areas for sites). Another $10,000 is to go for a videotape of the Barnwell facility; some people fear this could be a pro-landfill propaganda piece.

3. Rule-making petition—earlier this year, the Conservation Council petitioned the Radiation Protection Commission to adopt regulations on safely siting any LLRW facility. The three parts to the petition were:

(a) banning shallow land burial facilities as present landfills have proven to be unsafe and unacceptable. It was interesting to hear Mr.

Helminski of the Radiation Exchange report that all of the states which are developing regulations for LLRW facilities are prohibiting shallow land burial.

(b) siting regulations which are more comprehensive than the federal regulations. The federal regs, 10 CFR 61, allow off-site doses of 25 mrem/year (much higher than drinking water standards) and only plan on managing the wastes for only 100 years, even though some of the wastes will be highly dangerous for much longer. North Carolina is unique in many ways.

(c) on-site storage at the site of production. Again, since almost all of the wastes are generated by the nuclear power plants, the utilities should take responsibility for them. (The Radiation Protection Commission decided not to take this to public hearing although we are convinced that utility control of the wastes until it is no longer dangerous is good policy).

4. Conditions for accepting any LLRW—the Conservation Council and other environmental and community groups are currently investigating minimum requirements for any facility. We will be formally presenting these to the this committee and General Assembly at large as we develop them. They include:

(a) institutional control and liability--100 years of institutional control of material which is toxic for much longer periods is not acceptable. The federal regs appear to put the liability for long term care on the state, rather than the generators or facility operator.

(b) waste minimization--each generator, whether in North Carolina or elsewhere, needs a detailed waste management plan to minimize the production of LLRW.

(c) progressive rate structure--generators must pay fees to cover all expenses of the state and local government, including monitoring the facility until the material is no longer dangerous.

(d) public participation—the people across North Carolina have become knowledgeable about LLRW issues and will continue to oppose unsafe facilities wherever they are sited (for example, 4,000 people opposed the US Ecology incinerator at a public meeting in Fayetteville this spring). A workable plan must include a "community veto," where the local people through process can prohibit a facility in their community.

(e) others--waste acceptance criteria; on-site storage; waste tracking/manifest system; siting and site characteristics.

The Conservation Council will remain actively participating in developing a safe and sound LLRW policy for North Carolina.

Sincerely,

John Runkle

John Runkle
General Counsel

cc. Rep. Jack Hunt
Gerry Batchelor, Committee Clerk
Dr. Earl MacCormac
Bill Holman

APPENDIX G

SURCHARGES, FEES, AND TAXES ASSESSED AT THE CHEM-NUCLEAR PLANT IN BARNWELL, SOUTH CAROLINA*

1. $4 per cubic foot state tax - This tax generates 4 to 5 million dollars a year for the state education fund.

2. $2.80 per cubic foot - This fee is to be used for extended care after the facility closes. The target goal is 45 million dollars. Money from this fee is currently placed in escrow.

3. $0.84 per cubic foot - This is a Compact Commission surcharge. Last year this surcharge was only $0.45. It was increased to pay lobbyists for the Compact, Dames and Moore, and for additional meetings.

4. 3% county business tax - This tax averages 1/2 million dollars per year for the county.

5. The State Agency regulating siting, charges a license fee of $175,000 per year. This fee fluctuates.

6. There is a surcharge on waste imported from out of the southeast region of $10 per cubic foot a year through 1987. This surcharge will be $20 for 1988-89, $40 for 1990-92, and will expire at the end of 1992.

*The above information was provided by Bill Newberry, Office of the Governor, Columbia, South Carolina.

APPENDIX H

SESSION 19 87 M-047

INTRODUCED BY:

Referred to:

A BILL TO BE ENTITLED

AN ACT TO AMEND THE POWERS OF THE RADIATION PROTECTION COMMISSION TO PROVIDE FOR THE DEVELOPMENT AND ADOPTION OF CRITERIA AND STANDARDS FOR LOW-LEVEL RADIOACTIVE WASTE FACILITIES.

The General Assembly of North Carolina enacts:

Section 1. G.S. 104E-7 is amended by adding a new subdivision to read:

"(10) To develop and adopt criteria and standards to be considered in location and permitting of a low-level radioactive waste facility by June 30, 1987. The standards and criteria shall be developed through public participation, shall be enforced by the Department and shall include, in addition to all applicable State and federal rules and regulations, consideration of:

a. Hydrological and geological factors including flood plains, depth to water table, groundwater travel time, proximity to public water supply watersheds, soil pH, soil cation exchange capacity, soil composition and permeability, cavernous bedrock, seismic activity, slope mines, climate, and earthquake faults;

b. Natural resources including wetlands, endangered

species habitats, proximity to parks, forests, wilderness areas and historical sites, and air quality;

c. Local land use whether residential, industrial, commercial, recreational, agricultural, and proximity to incompatible structures including schools and airports;

d. Transportation factors including proximity to waste generators, route safety, and method of transportation;

e. Aesthetic factors including the visibility, appearance, and noise level of the facility; and

f. Acceptability within the community where the facility is to be located and steps which should be taken if community acceptance is not forthcoming.

Lands owned by a generator, outside the exclusionary zone designated by the Nuclear Regulatory Commission, shall be considered as possible sites."

Sec. 2. This act is effective upon ratification and shall apply to permit applications filed after the date of ratification.

SESSION 19 87 M-066

INTRODUCED BY:

Referred to:

A BILL TO BE ENTITLED

AN ACT TO AMEND THE LICENSING PROCESS FOR A LOW-LEVEL RADIOACTIVE WASTE FACILITY BY FIRST REQUIRING THE APPLICANT TO SATISFY THE STATE DEPARTMENT OF HUMAN RESOURCES OF HIS FINANCIAL AND TECHNICAL CAPABILITIES.

The General Assembly of North Carolina enacts:

Section 1. G.S. 104E-10.1 is amended by designating the first full paragraph as subsection (a) and the second full paragraph as subsection (b).

Sec. 2. G.S. 104E-10.1(a), as designated by this act, is amended by adding the following sentence at the end of the first paragraph:

"The approval of a permit shall be contingent upon the applicant first satisfying the department that he has met the above two requirements."

Sec. 3. This act is effective upon ratification and shall apply to permit applications filed on or after the date of ratification.

SESSION 19 87 M-067

INTRODUCED BY:

Referred to:

A BILL TO BE ENTITLED

AN ACT TO PROHIBIT SHALLOW LAND BURIAL OF RADIOACTIVE WASTE AND TO REQUIRE ENGINEERED BARRIERS AT ANY NEAR-SURFACE DISPOSAL FACILITY.

The General Assembly of North Carolina enacts:

Section 1. G.S. 104E-5 is amended by adding two new subdivisions to read:

"(7a) 'Engineered barrier' means a man-made structure or device that shall be designed and constructed so as to (i) prevent the migration of water into a disposal unit; (ii) prevent the migration of waste or waste contaminated water out of the disposal unit into the groundwater or surrounding soil; (iii) facilitate the detection of any leakage of waste or waste contaminated water; (iv) contain any waste or waste contaminated water for a time sufficient to allow for corrective action without contamination of groundwater or surrounding soil; and (v) facilitate the retrievability of the waste.

(14a) 'Shallow land burial' means below ground interment of low-level radioactive waste at depths typically up to 16 meters and in a manner which relies predominantly upon hydrogeological characteristics of the burial site, along with properties of soil and natural trench liners or caps, for limiting future infiltration of water and migration or release