ADVISORY COMMISSION ON RADIOACTIVE WASTE AND DECOMMISSIONING

ANNUAL REPORT 2000

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Bureau of Health
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Radiation Control Program

Commission Chair
Senator Sharon A. Treat

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approved, 14 FEB 2001

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2000 Advisory Commission on Radioactive Waste and Decommissioning

Senator Richard Carey (Chair)
Senator Sharon Treat
Senator Norman Ferguson
Clough Toppan, P.E, DHS
Jaime Mallon, MYAPC
Joseph Blinick, PhD, Maine Medical Center
Ron Ouellette, public member
June Meres, public member
Representative David Shiah, (vice-chair)
Representative Charles LaVerdiere
Representative Robert Daigle
Bob Demkowicz, DEP
Dr. Robert Marvinney, DOC
Don Hudson, Ph.D., public member
James Mitchell, public member
Stephen Jarrett, public member

ESTABLISHING LAW

The Establishing Law is:

TITLE 38: WATERS AND NAVIGATION
•CHAPTER 14-A: NUCLEAR WASTE ACTIVITY
•SUBCHAPTER I: GENERAL PROVISIONS
•§ 1453-A. Advisory Commission on Radioactive Waste and Decommissioning.

And can be seen in its entirety on the state website:
http://janus.state.me.us/legis/statutes/38/title38sec1453-a html

The requirement for this report is in section 4. Meetings and reports.

"The commission shall meet at least 4 times a year. The commission shall submit an annual report of activities to the Governor, the President of the Senate, the Speaker of the House of Representatives, the joint standing committee of the Legislature having jurisdiction over natural resource matters and the joint standing committee of the Legislature having jurisdiction over utility and energy matters by February 15th of each year."
[1997, c. 700, §7 (amd).]

INTRODUCTION

The purpose of the Advisory Commission on Radioactive Waste and Decommissioning, referred to as the "commission", is to advise the Governor, the Legislature and other pertinent state agencies and entities on matters relating to radioactive waste management and decommissioning of nuclear power plants and provide information to the public and provide opportunities for public input.
The Advisory Commission on Radioactive Waste and Decommissioning (ACORWD) remains the only State entity charged by the legislature to collect, analyze and disseminate information on all aspects of radioactive waste management. The Legislature created the Advisory Commission in 1985 as a successor to the Low-Level Waste Siting Commission. The Advisory Commission's purpose is "to advise the Governor and the Legislature on matters relating to radioactive waste management…"

Historically the Advisory Commission has taken leading roles in issues involving high and low level radioactive waste in Maine. Notably, the Commission took a leading role in fighting the siting of a high level radioactive waste repository in Maine. Later, the Commission was instrumental in establishing policy for dealing with low-level waste, leading to the creation of the Low-Level Waste Authority. Ultimately, with Commission endorsement, Maine negotiated a compact with the State of Texas for disposal of low-level waste and the Authority was dissolved. Currently the Commission is involved with issues dealing

with the decommissioning of Maine's nuclear power plant, Maine Yankee. It has been closely involved in the decommissioning standards set by the Maine Legislature in 2000. Currently the Commission is staying updated on the Independent Spent Fuel Storage Installation (ISFSI) and the reactor vessel segmentation projects under way at Maine Yankee. The ISFSI is a series of concrete pads (16) that will hold 4 concrete canisters each for a total of 64 concrete casks that will each house a number of spent nuclear fuel assemblies inside a stainless steel canister. The reactor vessel segmentation issue relates to certain internal structures of the reactor vessel that remain highly radioactive and cannot be disposed of any low level radioactive waste sites. These more radioactive internals are referred to as "greater than class C" waste or GTCC waste. Throughout, the commission has been a key source of information and guidance to the Governor, Legislature, State Government and the public.

DUTIES AND PRIORITIES OF THE ADVISORY COMMISSION ON RADIOACTIVE WASTE AND DECOMMISSIONING

Duties of the ACORWD

1. Provide opportunities for public input and disseminate information to the general public and promote public understanding concerning the management of radioactive waste.
2. Study the management, transportation, treatment, storage and disposal of radioactive waste, including high-level and low-level radioactive waste and mixed waste, generated in this state.
3. Monitor the methods, criteria and federal timetables for siting and constructing high-level radioactive waste repositories or storage facilities.
4. Monitor the Texas siting effort and Texas low-level Radioactive Waste Disposal Compact Commission activities and, if events require, propose legislation to reinstate an in-state siting effort for the storage or disposal of low-level radioactive waste in the state.
5. Advise the Governor, the Legislature and the Department of Environmental Protection or their successors, the state's member of the Texas low-level Radioactive Waste Disposal Compact Commission and other pertinent state agencies and entities, as appropriate, on relevant findings and recommendations of the commission.
6. Receive a written report from the State's member of the Texas low-level Radioactive Waste Disposal Compact Commission within 60 days after a meeting of that Commission or an oral report from that member at the next scheduled meeting of the Advisory Commission on Radioactive Waste, whichever comes first.
7. Prepare a newsletter for the public recording developments relevant to radioactive waste issues.

The priorities of the ACORWD

1. The decommissioning of the Maine Yankee Atomic Power Plant.
2. Study the management, transportation, treatment, storage and disposal of radioactive waste.
3. Provide opportunities for public input and disseminate information to the general public.
4. Monitoring the Texas siting effort of the Texas Compact (Texas, Maine and Vermont).
5. All remaining duties are set as equal after the first four.

The siting effort was of high priority in the past, but has since diminished due to the negative results in Texas' effort to locate a site. Current legislation in Texas has stalled the effort until the year 2001 when their session reconvenes. Increased activity and concern on the Maine Yankee Decommissioning has elevated this issue to the number one priority of the Commission.

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ACTIVITIES OF THE ACORWD TO SUPPORT ITS DUTIES

The Commission provides opportunities for public input at all its public meetings. Concerned citizens and organizations like Friends Of The Coast and the Citizen's Monitoring Network regularly voice their concerns on the issues concerning radioactive waste. David Hall and Maria Holt, both residents of Bath and members of the Citizen's Monitoring Network, regularly voice their concern to the commission on decommissioning clean-up standards at Maine Yankee Atomic Nuclear plant and waste leaving the plant. Friends Of The Coast's, Ray Shadis, has on a couple of occasions presented to the commissions its concerns on the need for higher security at the plant as well as clean-up standards.
The commission disseminates information to the general public by means of a newsletter and website.
The commission currently has a **website** located on the Department of Human Services, Bureau of Health, Division of Health Engineering, Radiation Control Program's website. The website address is:

http://janus.state.me.us/dhs/eng/rad/rad.htm

The website posts reports meeting times and topics of concern. The website also serves to promote public understanding concerning the management of radioactive waste through links to the other government agencies and industry.
The commission has also set up booths at **open houses** in the state. During the year the commission has participated in a couple of open house events. The first was put on by the Maine Department of Environmental Protection and held at the Chewonki foundation in Wiscasset, Maine during the summer. The second was the annual Bureau of Health Day held at the Augusta Civic Center during the winter. The commission set up a booth at these events with displays and literature
A quarterly **newsletter** providing informational updates on Radioactive Waste in Maine was sent out to 300+ addresses in the spring, summer and fall. During the winter the newsletter was also sent out to the entire mailing list for the Radiation Control Program. This new list included the ACORWD, radiation materials and radon mailing lists and went out to 900+ readers.

The commission **studies** the management, transportation, treatment, storage and disposal of radioactive waste, including high-level and low-level radioactive waste and mixed waste, generated in this state by means of presentations at its meeting, site visits and attending information meetings. During the year the commission was briefed by Paula Clark of the Department of Environmental Protection (DEP) on concrete waste and Resource Conservation and Recovery Act (RCRA) hazardous waste issues concerning waste leaving Maine Yankee. Now that concrete waste is going to be shipped out of state rather than characterized and kept in-state, the issue has diminished. The fact that the concrete waste will no longer be used as fill materials on the Maine Yankee site is an outcome of the decommissioning standard that was adopted by the Maine Legislature in 2000. The DEP expects to see a RCRA assessment plan in the spring as well as a RCRA plan for clean up and soil removal.

The commission was continuously updated on the plants decommissioning and the planned disposal of low and high level waste by the state's on-site inspectors, Pat Dostie and Dale Randall, and by Maine Yankee's Radiation Protection Manager, Jamie Mallon. These updates keep the commission informed on the status of work and projects like the automated truck radiation monitor installed to scan truckloads of non-radioactive demolition waste leaving the site for radioactive contamination.
Site visits to Maine Yankee provided on site observation of work to decommission and build an Independent Spent Fuel Storage Installation (ISFSI).

Some Commission members also regularly attend Maine Yankee's Community Advisory Panel to hear presentation by Maine Yankee, the Nuclear Regulatory Agency, Environmental Protection Agency and the public.

The commission **monitors** the methods, criteria and federal timetables for siting and constructing of a high-level radioactive waste repository and/or storage facilities by means of a report from the ACORWD staff, the State Public Advocate and State Nuclear Safety Office. The information that these groups present is

compiled in the appendix on 'Histories and 2000 Events'. This appendix describes the status and events in the Texas Compact, Barnwell Radioactive Waste Landfill in South Carolina, Yucca Mountain, Goshute Indians and North Carolina.

In the second session of the 119th Legislature two legislative documents having a direct impact on the decommissioning of Maine Yankee were introduced: LD2496, "An Act to Clarify the Authority of State Environmental and Public Health Officials to Monitor and Regulate Nuclear Power Plant Decommissioning, Site Cleanup and Restoration Activities" and LD 2688, "An Act to Establish Clean-up Standards for Decommissioning Nuclear Facilities" were passed by the legislature and signed into law by the Governor in the spring of 2000. The first law clarified the state's role in the decommissioning, required a disposal notice, set a radioactive clean-up standard, required a cumulative risk assessment for radioactive and hazardous constituents, and that any waste disposal facility created at the decommissioned reactor site would not require State ownership. The second law further defined the State's clean up standard (10 millirem dose to the average member of the critical group and 4 millirem in drinking water) and set surface contamination limits for any demolition debris that could be disposed of on site. This second law also specifically addressed the below grade structures that Maine Yankee proposed be left behind, intact, on-site and stated that they must meet the new State decommissioning standard. The need for first laws was discussed with the commission at a regular meeting and the second law was proposed to clarify a number of issues not specifically dealt with in the first law. The Advisory Commission on Radioactive Waste and Decommissioning was able to advise the governor and the legislature on these issues through regular meetings and committee workgroups.

The commission held five meetings during the year 2000. These meetings were held on the following dates: 8 February, 27 April, 14 September, 16 October and 28 November. All meetings were held in state office buildings or commercial conference facilities in the Augusta area and are open to the public.
Meeting agendas follow a standard format with presentations giving updates on Low-Level Waste, High-Level Waste (HLW), Maine Yankee Decommissioning Activities, and public comments.

APPENDIX A

LOW-LEVEL WASTE

Low-level Radioactive Waste (LLRW) is an inevitable by-product of beneficial uses of radioactive materials in the United States in the areas of medical research, diagnosis and treatment of diseases, industrial processes, and electric power generation. All these areas are deemed important to the interests of the nation. Today far less radioactive waste is produced than ten years ago. This is because of improved waste management practices and a large reduction in military defense related activities. Unfortunately, these practices will not reduce the amount to zero and waste will be with us for as long as we enjoy the benefits of the waste. The number of disposal sites needed to manage the quantity of waste now being generated is far less than formerly expected. Safe and effective methods and standards for transport and disposal of LLRW are well established.

The 1980 LLRW Policy Act, as amended in 1985, established a framework for the states to provide for safe disposal of LLRW, and encouraged the creation of regional compacts to develop an appropriate network of disposal sites. The deadlines established for the development of new sites have passed with no new sites being opened. Political, judicial, and administrative obstacles have blocked sites that were identified in California and Texas. Complex regulatory obstacles have thwarted other sites in North Carolina, Pennsylvania, Illinois, and Nebraska. Some states have simply stopped developing siting programs because there is no need for additional disposal capacity in the foreseeable future. Consequently, LLRW is now stored at or near the source of generation at thousands of sites nationwide. The effect of these obstacles and restrictions is to interfere with optimal beneficial uses of radioactive materials in medicine, research, and technology.

The goal of managing LLRW is to ensure the safety of workers and the public and to protect the environment. To achieve this goal, disposal, not long-term storage, is the safest approach. Present knowledge and technology are sufficient to allow such disposal safely. However, Monitored Retrievable Storage is becoming widely accepted nationwide.

TEXAS COMPACT

Background

The governing body for the Texas compact is the Texas low-level Radioactive Waste Disposal Compact Commission. Member states are Texas, Maine and Vermont. The compact was established in June of 1993 when 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 and Vermont in 1994. President Clinton signed the compact consent legislation into law on September 20, 1998.

Regulatory Responsibility: Texas Natural Resource Conservation Commission (TNRCC)
Program Responsibility: Texas low-level Radioactive Waste Disposal Authority (Authority) (abolished)
Siting Responsibility: Texas low-level Radioactive Waste Disposal Authority (Authority) (abolished)
Other Involvement: Texas Department of Health
Disposal Technology: Below-ground concrete canisters, previously, and now working toward Aboveground long-term storage.

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Events in 1999/2000

On May 29, 1999 the Texas legislature adopted a conference report containing a provision abolishing the Texas low-level Radioactive Waste Disposal Authority but transferring its staff, funding, and functions to the Texas Natural Resource Conservation Commission (TNRCC). The provision was added to the conference report just before the legislature adjourned, when it became apparent that other legislation relating to the Authority's functions would not be passed.

On September 1, the TNRCC absorbed the funding and functions of the Texas Low-level Radioactive Waste Disposal Authority, which ceased to exist on that date. The merger was mandated by the conference report.
Along with the authority's $1.18 million dollar budget, the TNRCC inherited restrictions on the funds use; a rider on the appropriation provides that the money may be spent only to investigate techniques for managing low-level radioactive waste including, but not limited to, aboveground isolation facilities.

Earlier in the session, both the Texas Senate and the Texas House of Representatives passed HB 1171, a bill amending existing state law regarding management of commercial low-level radioactive waste. However, the House and Senate versions differed substantially, and the House sponsor of the bill chose not to call up a conference committee rather than risk passage of the legislation with changes that he deemed unacceptable. Major areas of contention concerned whether the existing regulations should be changed to allow a private company to be licensed for disposal of low-level radioactive waste, whether assured isolation should be the preferred waste management option, whether a new county should be designated as the location for a waste management facility, and whether DOE waste could be accepted at a disposal facility in Texas.

The legislature adjourned without passing HB 1171, which means that current low-level radioactive waste disposal legislation will remain in effect at least until the next legislative session, scheduled to begin in January 2001. Under current law, the Authority is required to site a low-level radioactive waste disposal facility in Hudspeth County. Given the TNRCC's rejection of a proposed disposal site in that county in October 1998, such an endeavor faces major obstacles. The Authority is therefore considering siting an assured isolation facility, which would not be affected by the Hudspeth County location requirement. The Authority is also preparing for the merger into TNRCC, although it is not clear whether the transition must take place by September of this year or by September of 2000. The merger would not affect the licensing process for an assured isolation facility, since such a facility would be regulated by the Texas Department of Health.

Hudspeth County, Texas v. Maine and Vermont

The deadline recently passed in late August for Hudspeth County, Texas, to file an appeal in its lawsuit against the States of Maine and Vermont. The lawsuit, which alleged that each state owed $1.25 million to the county under the terms of the Texas Low-Level Radioactive Waste Disposal Compact, was dismissed by the U.S. District Court for the Western District of Texas on August 23, 2000. The district court found that Maine and Vermont are entitled to sovereign immunity under the Eleventh Amendment to the U.S. Constitution and that the provisions of the Texas Compact do not constitute a waiver of immunity.

The Court's Decision was that the Eleventh Amendment provides that the judicial power of the United States shall not be construed to extend to any suit in law or equity, commenced or prosecuted against one of the United States by Citizens of another State or by Citizens or Subjects of any Foreign State. Nonetheless, a state can consent to being sued, thereby waiving its sovereign immunity. In such case, however, the courts have held that the waiver must be unequivocally expressed. In the instant case, the court found no such unequivocal waiver.
In making its determination, the court noted that section 8.01 of the Texas Compact provides that the sovereign powers of a party shall not be infringed upon unnecessarily and that section 8.03 of the compact provides that party states do not acquire liability of any kind for any act or failure to act except as otherwise

provided in [the] compact. The court also noted that arbitration or other alternative dispute resolution processes are set out in the compact.
While the court acknowledged that the compact contemplates possible suits amongst the party states, the court found it relevant that nowhere in the Compact do [party states] consent to suit by a host county, or any other non-party or third party beneficiary.
The court also recognized that the compact provides for suits against the Texas Low-Level Radioactive Waste Disposal Compact Commission. Nonetheless, the court points out that the compact provides that the liabilities of the commission shall not be deemed liabilities of the party states.
In reaching its decision, the court specifically rejected Hudspeth County's argument that in an interstate compact that allows a commission, comprising party-state members, to be sued, Congress effects the party-states' waiver of immunity under the compact's terms. The court also dismissed the county's argument that a provision in a compact calling for venue in state or federal court provides evidence that the states adopting the venue provision waive immunity from suit in federal court.

Hudspeth County filed the lawsuit on September 27, 1999, in the United States District Court for the Western District of Texas. Hudspeth County's complaint states as follows:

Under the terms of the Compact, Maine and Vermont agreed to pay for community assistance projects designated by the host county in an amount of 2.5 million dollars each. One-half of the payment was due on the first day of the month following ratification of the compact by Congress (October 1, 1998). The other half was due on the first day following the approval of a facility operating license by Texas' regulatory body.

Hudspeth County argues that the defendants' failure to pay the initial installment constitutes a breach of contract for which they are liable. The county argues that it is entitled to enforce the compact (including its alleged right to payment from the party states) because, as the designated host county, it is an intended third-party beneficiary of the compact.
Texas law designates Hudspeth County as the location for a low-level radioactive waste disposal facility. However, on October 22, 1998, state regulators denied the Texas Low-Level Radioactive Waste Disposal Authority's license application for a proposed facility there given this rejection, siting a disposal facility in the county faces major obstacles, and alternatives are under consideration.

SOUTH CAROLINA

In South Carolina Governor Jim Hodges' (D) 2000 "State of the State' Address was delivered on January 19. The Governor promoted joining the "Atlantic Compact." In support of the proposal, the Governor spoke as follows:

South Carolina must control its own environmental destiny at the Barnwell landfill. My bipartisan task force, chaired by former Congressman Butler Derrick, recommends a solution that meets South Carolina's environmental needs. The task force unanimously suggests that we join the Atlantic Compact. We can reduce the overall volume and total radioactivity of waste at the Barnwell disposal facility and free up space for the decommissioning of our own nuclear plants in the future.
I urge this General Assembly to petition for membership in the Atlantic Compact- South Carolina must no longer be the national nuclear dumping ground. In December 1999, the Governor's Nuclear Waste Task Force recommended that he pursue state membership in the Atlantic Compact.

In February 2000, legislation was introduced in the South Carolina General Assembly to establish the state as a member of the Northeast Interstate Low-Level Radioactive Waste Compact, which currently comprises Connecticut and New Jersey. Upon South Carolinas membership, the compact would become known as the 'Atlantic Low-Level Radioactive Waste Compact."

The legislation, entitled the Atlantic Interstate Low- Level Radioactive Waste Compact Implementation Act, incorporated the Northeast Compact by reference and specified conditions for South Carolinas membership. It also specified procedures for implementation of South Carolina's responsibilities in the compact. The legislation provided for South Carolinas membership in the Atlantic Compact to take effect on July 1, 2000.

The Northeast Compact, as ratified by the U.S. Congress, already contains a mechanism for adding member states, it was not anticipated that any federal approval would be needed in order for South Carolina to join the compact. As a congressionally approved compact, the Northeast Compact has legal authority over import of low-level radioactive waste into the region for disposal.
The recently introduced South Carolina legislation required, as a precondition of South Carolinas membership in the compact, that the Atlantic Compact Commission adopt a 'binding regulation or policy in accordance with Article IV(11) of the Atlantic Compact authorizing a host state to enter into agreements with any person for the importation of waste into the region for purposes of disposal, to the extent that these agreements do not preclude the disposal facility from accepting all regional waste that can reasonably be projected to require disposal at the regional disposal facility."

The legislation specified that the South Carolina Budget and Control Board, with the authorization of the Atlantic Compact Commission, “may enter into agreements with any person in the United States or its territories or any Interstate compact, state, U.S. territory, or U.S. Department of Defense military installation abroad for the Importation of waste into the region for purposes of disposal at regional disposal facilities within South Carolina."

The legislation does not include any schedule for discontinuation of access for out-of-region generators. However, South Carolina officials have indicated that such access could be significantly reduced within one year of enactment of the legislation and discontinued entirely within 5-8 years.

On June 7, Governor Jim Hodges of South Carolina signed into law S1129, the Atlantic Interstate Low-Level Radioactive Waste Compact Implementation Act. The legislation provided for South Carolina's membership in the Atlantic Compact to take effect on July 1, 2000.

Disposal Rates

As an additional precondition for South Carolinas membership, the legislation required the Atlantic Compact Commission to authorize South Carolina to "proceed with plans to establish disposal rates for low-level radioactive waste disposal in a manner consistent with" the procedures described in the legislation.
Under these procedures, the South Carolina Budget and Control Board will adopt a price schedule for in-region generators containing rates that are equal to or less than the approximate rates in effect at the end of calendar year 1999. The board will adopt this price schedule within thirty days of the enactment of the legislation and will review it in March of each subsequent year.

The price schedule must be "sufficient to reimburse the site operator for its costs of operating the facility and for its operating margin," which is established at 29 percent, the same margin allowed to the operator of the commercial low-level radioactive waste disposal facility at Hanford, Washington.

Allowable costs of the site operator include costs of those activities "necessary" for receipt of waste; construction of disposal trenches, vaults, and overpacks; construction and maintenance of physical facilities; purchase of equipment and supplies; accounting, billing, and record keeping, site monitoring; regulatory compliance, taxes other than Income taxes, and licensing and permitting fees.

Within 45 days of enactment of the legislation, the site operator is required to prepare and file a Least Cost Operating Plan. The plan is to include information concerning anticipated operations over the next ten years, and it is to evaluate "all options for future staffing and operation of the site to ensure least cost operation, including information related to the possible interim suspension of operations ... "

If the site operator projects that the waste disposal volumes for a given period of time will be insufficient to cover the operational costs plus the operating margin, the operator "shall propose to the Atlantic Compact Commission plans including, but not necessarily limited to, a proposal for discontinuing acceptance of waste until such time as there is sufficient waste.
Under the legislation, the South Carolina Budget and Control Board is empowered to approve special disposal rates applicable to non-regional generators based on "demand for disposal capacity, the characteristics of the waste, the potential for generating revenue for the State and other relevant factors."

The legislation requires the facility operator to pay to the South Carolina Department of Revenue and Taxation on a quarterly basis the difference between total revenues received and allowable costs plus the operator's margin.
From these payments, the South Carolina State Treasurer is to provide the first $500,000 each quarter to the governing body of Barnwell County for further distribution.
Revenues in excess of $500,000 are to be deposited in a fund called the "Nuclear Waste Disposal Receipts Distribution Fund." The legislation provides that "any South Carolina waste generator whose disposal fees contributed to the fund during the previous quarter may submit a request for a rebate of 33.33 percent of the funds paid by the generator during the previous quarter for disposal of waste at a regional disposal facility ... Upon validation of the request the State Treasurer shall issue a rebate of the applicable funds to qualified waste generators within sixty days after the end of the quarter. If funds in the Nuclear Waste Disposal Receipts Distribution Fund are insufficient to provide a rebate of 33.3 percent to each generator, then each generator's rebate must be reduced in proportion to the amount of funds in the account for the applicable quarter."
Revenues remaining In the Nuclear Waste Disposal Receipts Distribution Fund after issuance of rebates to generators are to be deposited in the state's General Fund

Schedule Set for Phasing Out Access

The legislation as approved by the Senate and now under consideration in the House differs substantially from the bill as first introduced. Significant revisions include the addition of a provision prohibiting acceptance of non-Atlantic Compact waste after 2008. Until then, total volumes of waste accepted at the facility would be reduced each year, beginning in 2001, in accordance with the following schedule.

year	*maximum allowable volume (cubic feet) of waste from all sources*
2001	160,000
2002	80,000
2003	70,000
2004	60,000
2005	50,000
2006	45,000
2007	40,000
2008	35,000

During the transition period, shipments from non-Atlantic Compact generators would be approved on a case-by-case basis by the South Carolina Budget and Control Board, as authorized by the compact commission.
As a congressionally approved compact, the Northeast Compact has legal authority over import of low-level radioactive waste into the region for disposal. One of South Carolinas preconditions for membership in the compact is a requirement that the Atlantic Compact Commission adopt a binding regulation or policy in accordance with Article IV(i) (11) of the Atlantic Compact authorizing a host state to enter into agreements on behalf of the compact ... with any person for the importation of waste into the region for purposes of disposal, to the extent that these agreements do not preclude the disposal facility from accepting all regional waste that can reasonably be projected to require disposal at the regional disposal facility consistent with [a provision addressing the amount of disposal capacity available to Connecticut and New Jersey]. "

North Carolina

On February 2, the Low-Level Radioactive Waste Management Committee of the North Carolina Radiation Protection Commission released for comment a draft report recommending a new plan for low-level radioactive waste management. Written comments on the draft report were due March 1.
The report's conclusions, summarized below, are the result of a series of meetings conducted by the committee in which generators and the public were invited to submit comments and discuss relevant issues.
The report concludes that the federal Low-Level Radioactive Waste Policy Act of 1980 its 1985 amendments have "failed to provide a solution for the management of the nation's LLRW. " The report recommends that the state General Assembly, working through the North Carolina congressional delegation and the National Conference of State Legislatures, advocate a change in national policy. The report also endorses "opening the disposal market for LLRW to private industry under the regulatory control of North Carolina, the other Agreement States, and the U.S. Nuclear Regulatory Commission ... "
The report concludes that a central facility for low- level radioactive waste is not needed, as long as generators retain access to treatment facilities and to the Envirocare of Utah disposal facility. Nevertheless, the report recommends a review of low-level radioactive waste management In North Carolina every three years. The report also notes that "work will be needed in the future" to obtain access to a disposal facility for class B and C low-level radioactive waste.
The committee discussed the feasibility of storing low-level radioactive waste from all of North Carolina's generators at nuclear power plant sites. The committee's report lists obstacles to this proposal:

1) The NRC licenses under which the utilities operate do not allow for the storage of LLRW from other generators;
2) The utilities are not prepared to handle all the different types of waste streams that are produced throughout North Carolina;
3) Several generators expressed opposition to utility storage because of the liability issue; and
4) The utilities do not wish to get into the waste storage business.

The report encourages the Division of Radiation Protection in the North Carolina Department of Environment, Health and Natural Resources (DEHNR) to provide assistance to generators and other state agencies in the form of information exchange, education, and coordination.
The report concludes that existing statutes and regulations covering the management of low-level radioactive waste are satisfactory to ensure public health and safety. Several long-term options for obtaining access to disposal capacity for class B and C waste are identified**,** but the report does not recommend a preferred option. The report does, however, recommend that the current prohibition against licensing a low-level radioactive waste facility remain in effect 'until changes in the national policy or operational circumstances dictate differently."

MAINE YANKEE ATOMIC POWER COMPANY

Background

The Maine Yankee Atomic Power plant is located in Wiscasset, Maine. The official power rating for the plant was approximately 900 MW, and throughout its operating life, the plant remained the largest single generating unit in Maine. The plant last produced electricity in December 1996. The shutdown, which was initially triggered by problems identified with nuclear fuel, was extended as other problems, which also served to delay the restart, were discovered. Beleaguered by a recent extended outage to perform steam

generator repairs, and the results of an Independent Safety Assessment[1], which led to the emplacement of a new management team, Maine Yankee's ownership[2] initiated a search for new owner-operators for the plant. Meanwhile, preparations to bring the plant back on-line continued. The search for a new owner was concluded in August of 1997, when Maine Yankee formally closed the plant, filing a "cessation of operations" statement with the US Nuclear Regulatory Commission. Soon after, the company announced its plans to begin a prompt decommissioning and dismantlement of the plant.

Per a decision made by the owners of Maine Yankee, the decommissioning of Maine Yankee was put to a competitive bid process. The process was facilitated by a "site characterization," a survey of the environs and plant systems and structures, intended to determine the extent of hazardous and radioactive contamination on the site. The site characterization, performed by GTS-Duratek, Inc., began in the fall of 1997 and was completed in the spring 1998.

In August 1998, Maine Yankee announced that Stone & Webster Engineering Corporation (SWEC) of Boston, MA had been selected as the general contractor for the "Decommissioning and Decontamination of Maine Yankee." The contract, in the amount of $250 million, also allows SWEC an option for redeveloping the site with a gas fired generation unit. The project is scheduled for completion in 2004.

It was quite an eventful year with many challenges and successes. Although there were quite a number of significant events in the year 2000, six were noteworthy and are listed below:

State Legislation
Large Component Removal & Steam Generator Shipments
License Termination Plan (LTP)
Decommissioning Operations Contractor (DOC) Termination
Reactor Vessel Internal Segmentation
Independent Spent Fuel Storage Installation (ISFSI)

State Legislation

In July of 1999 the State was preparing to resume its confirmatory surveys and measurements, that it had commenced in the summer of 1998, of those elevated areas identified as part of GTS-Duratek's site characterization of the plant site. Maine Yankee's position at the time was that if the State's confirmatory process was non-intrusive it had no objection. However, since the State's measurements would include soil samples, Maine Yankee deemed that this was intrusive testing and requested the State to abandon this portion of the confirmatory process. In addition, Maine Yankee expressed concern that the State Nuclear Safety Inspector's (SNSI) legal role was limited to monitoring and that this intrusive testing was tantamount to the SNSI as exceeding his legislative authority. Since the soil samples were an integral part in forming the basis for their ultimate conclusions, the State refused to relinquish this portion of their process findings. Hence, Maine Yankee felt compelled to issue a letter prohibiting the State from taking any measurements on-site without the express approval from Maine Yankee.

In 2000 LD2496, "An Act to Clarify the Authority of State Environmental and Public Health Officials to Monitor and Regulate Nuclear Power Plant Decommissioning, Site Cleanup and Restoration Activities" was proposed as in response to the impasse between both parties. During the work sessions it became apparent that under current law, if any residual activity remained on-site it was tantamount to creating a de facto low level radioactive waste disposal facility, requiring both legislative and a statewide referendum

[1] The "Independent Safety Assessment," which was undertaken at the insistence of the King Administration, was a review key safety systems of the plant by NRC expert staff with State participation. The report concluded that Maine Yankee's performance was "Average or below average with a declining trend".

[2] Maine Yankee's ownership consists of the following: Central Maine Power Co., 38 percent; New England Power Co., 20 percent; Northeast Utilities, 20 percent; Bangor Hydro-electric Co., 7 percent; Maine Public Service Co., 5 percent; Cambridge Electric Light Co., 4 percent; Montaup Electric Co., 4 percent; and Central Vermont Public Service Corp., 2 percent

approval. Since admittedly residual activity would be left behind, LD 2688, "An Act to Establish Clean-up Standards for Decommissioning Nuclear Facilities" was also proposed to rectify the State's predicament. In this Act a State clean up standard of 10 millirem dose to the average member of the critical group and 4 millirem to drinking water was adopted, which was more restrictive than the NRC's own clean-up guidelines of 25 millirem plus ALARA. Both Acts were passed by the legislature and signed into law by the Governor in the spring of 2000.

Large Component Removal & Steam Generator Shipments

In April 2000 the steam generators and the pressurizer were removed from Containment and stored outside in the backyard of the radiation-restricted area. Three of the four components were removed without incident. However, the first generator to be removed did experience an incident. The cross beam that supported one end of the steam generator as it was lowered and exited the containment building, was raised out of the way to allow for a specially designed truck trailer to transport the steam generator to its laydown location in the backyard. Because the ground clearance of the trailer transport was crucial, everyone was focused down not realizing that a snubber attachment on the steam generator (S/G) was protruding above that would force the top beam off its jack supports and onto the S/G. The distance of the fall was not enough to seriously affect the S/G.

In June 2000 the S/Gs and Pressurizer had been prepped for barge shipment by securing the large components to their saddles and installing the necessary shielding to lower the radiation exposures for transportation. The same truck trailer used to haul the S/G out of containment would be used to haul the steam generator down to the barge slip to load it onto a barge. Once on the barge the S/G saddles would be welded to the deck of the barge for ocean transportation. In June there were two barge shipments to the GTS-Duratek facility in Memphis, Tennessee for deconning and salvaging. Whatever could not be deconned would be shipped to the Barnwell low level radioactive waste disposal facility in South Carolina. On both shipments State staff followed the barges to measure any potential impacts from increases in background levels as the barges exited the state to open waters. On both shipments a couple of areas were identified that experienced slight increases in background levels. The increased levels were only transitory, lasting no more than five minutes. The radiological impacts were essentially very miniscule and non-existent.

License Termination Plan

In developing its original License Termination Plan (LTP) concept for meeting the NRC's criterion for license termination of 25 millirem total effective dose equivalent (TEDE) per year to the average member of the critical group plus ALARA, Maine Yankee proposed to clean the dome to a pre-specified level of radioactivity on surfaces. It would then reduce the containment dome and other structures to rubble and place it in the open foundations as fill material. The rubble would then be modeled, using restrictive, but possible future occupancy scenarios. This concept, although plausible, generated lots of skepticism. Because of the mounting uncertainty, Maine Yankee proposed another alternative, which would "go beyond regulatory requirements." This would be achieved by combining a flowable fill with the slightly contaminated concrete rubble and then solidifying it into a monolithic mass along with appropriate deed restrictions. According to the plan, this would reduce the modeled doses to below 10 millirem per year TEDE and below 4 millirem per year from the drinking water pathway, the standards adopted by the State in LD 2688. This alternate conceptual approach of the LTP also received approval from the Governor's Technical Advisory Panel (TAP).

In January of 2000, however, Maine Yankee submitted to the NRC its License Termination Plan (LTP) for decommissioning the nuclear facility based on the rubblization concept in the body of the Plan and relegated the underground monolith proposed to the State in the Preface portion of the document. The State was bewildered and expressed its concern that Maine Yankee presented two separate and distinct processes for review, which could result in misunderstanding and confusion as to what is NRC approving and what is actually being done on-site.

In March of 2000 the NRC completed its acceptance review of Maine Yankee's LTP and judged it sufficient for its technical review. Furthermore, the NRC staff also scheduled a public meeting on May 15, at the Wiscasset High School to solicit public comment on the LTP. The State testified at the public meeting, which included a letter from the Governor to the Chairman of the NRC Commission and testimonies from the Deputy Commissioner of the Department of Environmental Protection and the Deputy Director of the Bureau of Health, Department of Human Services. Besides this the State also submitted 91 comments after the public meeting to the NRC, the bulk of which consisted of comments from the Governor's Technical Advisory Panel and the State's consultant. At the public meeting Maine Yankee committed to rewriting their LTP.

In July 2000 the State, in order to ensure that its interests were protected, applied for and received intervenor status in NRC's review of Maine Yankee's LTP. Although initially the Friends of the Coast were denied intervenor status, they were later allowed to intervene in the LTP process. With intervenor status the State, along with the Friends of the Coast, can ensure their views are properly raised and resolved in a judicial process comprised of a tribunal of judges from the NRC's Atomic Safety and Licensing Board (ASLB). As part of the ASLB's actions Maine Yankee was required to provide a date for when the revised LTP would be available. Maine Yankee initially set a date for October 31st. During this time span it became increasingly evident that Maine Yankee would not be able to rewrite the LTP to meet the deadline and at the same time incorporate changes to satisfy intervenor concerns. To their credit Maine Yankee reoriented their priorities to ensure first and foremost that stakeholder issues were satisfactorily addressed. A new date was set for the much anticipated revised LTP. That date was now April 15, 2001. During the interim Maine Yankee has been holding on-going stakeholder meetings to resolve outstanding LTP comments.

Decommissioning Operations Contractor (DOC) Termination

In late 1999 Stone & Webster Engineering Corporation (SWEC) experienced cash flow problems. Most of the problems appeared centered on some of their international contracts. SWEC was forced to place their corporate headquarters building in Boston up for sale to buoy their reserves. Even though SWEC's other contracts were experiencing cash flow problems, SWEC's earned value contract at Maine Yankee was not in jeopardy. Work was proceeding as scheduled. However, corporate problems eventually caught up with them and SWEC was compelled to file bankruptcy. Maine Yankee's Board of Directors terminated SWEC's contract due to performance issues prior to bankruptcy in early May 2000. Maine Yankee and SWEC then continued the project during a 45 day transitional period until the first of July. In July Maine Yankee retained SWEC's subcontractors, assumed the role of the temporary DOC, and initiated a request for bids for a new DOC. However, as part of this bidding process the Maine Yankee Board of Directors also included Maine Yankee as another DOC option. In the end there were three outside companies soliciting the DOC bid in addition to Maine Yankee going it alone. At the end of the year the decision to hire a new DOC was still undecided and a decision was expected in late January 2001.

Reactor Vessel Internal Segmentation

Prior to the extraction of the vessel from the containment building and prepping it for shipment for disposal, the vessel must meet certain disposal requirements, the foremost of which is a 50,000 curie limit per disposal package. Since the reactor pressure vessel and its internals experienced extensive and differing neutron bombardment during its operating history, it would be necessary to somehow segregate and segment portions of the vessel to meet the disposal criteria. First, it was determined that the reactor head could be shipped separately. That left the remaining portion of the reactor vessel and its internals. However, the curie content for this remainder still exceeded the 50,000 curie limit at the low level radioactive waste disposal facility. Upon reviewing the neutron history it was determined that the vessel could be disposed as is. The internals, on the other hand, which experienced the highest neutron fluxes, would have to be segmented into two waste streams. The highly radioactive portions of the internals would have to be left behind and be classified as Greater Than Class C (GTCC) and stored on-site with the plant's

spent nuclear fuel. The remainder of the internals could be returned to the vessel, repackaged and shipped for disposal.

After months of planning, designing, fabricating and testing in mock-ups, Maine Yankee was ready to commence the cutting of the reactor vessel internals. Framatome Technologies Inc. (FTI), which was contracted to perform this work, started mobilizing on-site in July of 2000. On November 1st FTI performed its first cut on the lower section of the core barrel, one of the internals to the reactor vessel. The cutting is accomplished by employing a high pressure abrasive water jet. The abrasive material used is Garnet and the entire cutting is conducted underwater. The methodology produces less radiological problems than other previously utilized methods in the industry. Although it has taken a bit longer than originally scheduled, the work is of high quality and the resultant worker exposures are much less than those experienced for the vessel cuts at the Yankee Rowe and Connecticut Yankee plants.

Independent Spent Fuel Storage Installation (ISFSI)

Ironically, as it is currently planned, the vast majority of the radioactivity at the Maine Yankee site is expected to remain there long after clean-up work undertaken is completed. The highly radioactive spent nuclear fuel, which is currently stored in the spent fuel pool, is to one day be removed from the site by the US Department of Energy (DOE).

The DOE, who defaulted its contractual obligation to remove spent fuel by December 1998, is not expected to remove any fuel before 2020. To address the continuing need to store fuel on site, an analysis, of spent fuel storage options was undertaken by Maine Yankee. Maine Yankee concluded that leaving the spent fuel in the spent fuel pool would ultimately be more expensive than the alternative of storing the spent fuel in dry casks. The dry cask option would have lower operating expenses than maintaining the spent fuel pool as a result of the passive cooling mechanisms. Moving fuel to a dry cask facility also allows for complete plant decommissioning.

To accomplish this Maine Yankee has to construct and operate an Independent Spent Fuel Storage Installation (ISFSI). Within the NRC's licensing rules, Maine Yankee has two licensing options available, under which it could construct and operate an ISFSI. The two options are:

- A specific license per 10 CFR 72
- A general license per 10 CFR 50

Under 10 CFR 72, Maine Yankee would be, in effect, applying for a new license to store spent fuel in the proposed dry cask facility. The process provides opportunities for public participation through a hearing process. The general license granted under 10 CFR 50[3], was originally promulgated to accommodate operating plants that potentially faced early shutdowns due to a lack of spent fuel storage capacity. Under this option the license for the ISFSI itself is automatically granted, public participation is addressed through informational meetings and through the licensing process for the dry casks themselves. Maine Yankee has selected the general license option.

The construction of such a facility is also subject to Maine regulation under the Department of Environmental Protection's (DEP) site development law. On August 29, 1999, the Maine Board of Environmental Protection (BEP) voted to accept the recommendation of DEP staff to assume jurisdiction over the ISFSI and to "pursue what jurisdiction [they] may have". Shortly thereafter, Maine Yankee's attorneys filed a suit in federal court requesting a summary judgement, asserting that the BEP's jurisdiction is preempted by federal law not only on radiological grounds, but on all bases for regulation by the BEP. Maine

Yankee initially requested a stay of the BEP's proceedings, this request was granted by the BEP. However, since federal court action was not as prompt as originally anticipated, Maine Yankee requested that their

[3] 10 CFR 50 is the body of rules that govern the NRC's licensing of nuclear power facilities.

stay with the BEP be lifted. BEP granted their request and scheduled public hearings in Wiscasset in May 2000. Just prior to the BEP's hearing date the federal court ruled that the BEP could not preempt federal jurisdiction and had to limit itself to non-radiological issues. Relegated to discussing only site development issues, the BEP eventually approved a landscaping plan as part of site development to minimize the line of sight of the dry cask facility with neighbors. Not long after BEP's approval the Wiscasset Planning Board approved Maine Yankee's permit to build the ISFSI.

Since then the ISFSI has taken shape. The earthen berm was constructed. Sixteen concrete pads have also been constructed to store the 60 dry casks that will house all the spent fuel and the four dry casks that will house the GTCC waste from the reactor vessel internal segmentation project. Currently, eight of the 64 dry casks have been fabricated and are also stored on-site. In preparations for the long term monitoring of the spent fuel, the old low level waste building is being renovated into a security and Operations Building (SOB). The SOB is scheduled to be completed in the first quarter of 2001and will house security, operational, radiation protection personnel.

Oversight

The NRC, which derives its authority to regulate nuclear power from the Atomic Energy Act of 1954 and its subsequent amendments, remains the lead federal agency for regulation and oversight of plant activities. In July 1998, the NRC discontinued its staffing of a full time on-site "resident" inspector, and instead performs inspections through site visits by inspectors based either at NRC Region I headquarters (near Philadelphia, PA) or from NRC headquarters in Rockville, MD. In 1999, the scope of NRC inspection activities has general meant one or more inspectors would be at the Maine Yankee plant site for three to five days per month. In CY 2000 the NRC increased its level of inspection activities to cover the removal of large components such as the steam generators and the segmentation of reactor pressure vessel internals.

The State of Maine provides for direct oversight of plant activities principally through the staffing of the State Nuclear Safety Inspector (SNSI) and his Assistant at the plant site. These individuals work under the auspices of the Department of Human Services, Bureau of Health, Division of Health Engineering (DHE), and are charged with maintaining the State's radiological monitoring program, in additional to inspecting or reviewing all health and safety aspects of Maine Yankee's decommissioning. Through a written agreement with the NRC, all identified health or safety concerns must be reported to the NRC and Maine Yankee. Additional State inspection activities are also conducted by the DEP, who have regulatory over hazardous materials, solid waste, and site development. These have generally been closely coordinated with the SNSI 's office, which have had a high level of involvement with many of DEP's permitting processes as they are applied to Maine Yankee.

The Governor's Office monitors decommissioning progress through the State Nuclear Safety Advisor (SNSA) and the formation of the "Maine Yankee Working Group", which is made up of representatives from the various departments who have oversight over the decommissioning, inclusive of the SNSI Office. The Governor's Office has also formed a "Technical Advisory Panel" (TAP), a group that consists of four university professors who are experts in various aspects of the radiological sciences, to perform expert level reviews on specific projects as needed.

HIGH LEVEL RADIOACTIVE WASTE

The Nuclear Waste Policy Act of 1982

An Act to provide for the development of repositories for the disposal of high-level radioactive waste and spent nuclear fuel, to establish a program of research, development, and demonstration regarding the

disposal of high-level radioactive waste and spent nuclear fuel, and for other purposes. Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled.

Background

High-level radioactive waste (HLW) consists primarily of nuclear fuel rods from commercial nuclear power plants and is called "spent nuclear fuel." Radioactive waste that results from the commercial reprocessing of spent nuclear fuel also falls under the NRC's definition of HLW. Reprocessing extract isotopes from spent fuel that can be used again as reactor fuel. Commercial reprocessing is currently not practiced in the US although it has been allowed in the past. There are significant quantities of HLW from the defense reprocessing and commercial nuclear programs at Department of Energy (DOE) facilities, such as Hanford, Washington, Savannah River, South Carolina, and West Valley, New York, that must also be included in any HLW disposal plans.

Legislative Requirements

US policies governing the permanent disposal of HLW are defined by the Nuclear Waste Policy Act of 1982 (NWPA), the Nuclear Waste Policy Amendments Act (NWPAA) of 1987, and the Energy Policy Act of 1992. These acts specify that HLW will be disposed of underground, in a deep geologic repository.

The NRC is one of three Federal agencies under the acts with a role in the disposal of spent fuel and other HLW. DOE is responsible for determining the suitability of the proposed disposal site as well as developing, building, and operating the geologic repository. The U.S. Environmental Protection Agency (EPA) will develop environmental standards to evaluate the safety of the geologic repository proposed by DOE. NRC will license the repository after determining whether DOE's proposed repository site and design comply with EPA's standards and with NRC's implementing regulations found in 10 CFR Part 60.

HLW Storage Problem

The American utility companies and their 65 million consumers have a spent fuel storage and disposal problem. The power plants were built with only limited spent fuel storage. Without a storage or disposal facility, the viability of many of these plants is seriously in question.
The management and disposal of increasing amounts of commercial spent nuclear fuel is being exercised in different ways worldwide including interim storage and reprocessing. Between 1996 and 2015, nuclear reactors worldwide are projected to discharge about 200 thousand metric tons of uranium (MTU). By 2015, cumulative discharges of spent fuel from U.S. nuclear reactors are expected to increase to about 75 thousand MTU, compared to a total of 32 thousand MTU discharged through the end of 1995.
1996 data showed that in the next 19 years, 46 of the 107 commercial nuclear power plants currently operating in the United States are scheduled to be closed after reaching the end of their operating license. However, several commercial reactors have been successfully decommissioned, demonstrating that decommissioning is well within the bounds of current technology. The greatest uncertainty, however, is the availability of spent fuel storage disposal sites.

Many factors enter into a nuclear utility's decision to choose one of the decommissioning options, depending primarily on the expected escalation in low-level waste (LLW) costs. Factors favoring the option of dismantlement and decontamination (DECON) include the availability of a highly skilled staff with experience at the plant, and the elimination of potential future cost uncertainties. Factors favoring an option where a facility is maintained until some decay of radioactivity, followed by dismantlement include the desire to reduce the radioactivity and quantity of LLW and the possibility that new, more efficient disposal technologies may emerge.
Currently, only three sites accept LLW: Envirocare in Clive, Utah (on aboriginal Goshute territory immediately next to the Reservation); Barnwell in South Carolina; and Hanford in Washington. Although these sites accept LLW, their disposal charges differ considerably, from $85 per cubic foot at Hanford to $385 per cubic foot at Barnwell. NRC estimates of DECON cost for a reference reactor with LLW disposal

at Hanford range from $133 to $158 million versus a range of $224 to $303 million for safe storage option. With continued delay in the Federal government's high-level waste repository, utilities must also consider the costs and benefits of continued pool storage versus those of placing all their spent fuel in an independent spent fuel storage installation (ISFSI). Annual spent fuel storage costs are estimated at about $6 million for pool storage and $2 million for dry storage in an ISFSI.

BAND OF GOSHUTE INDIAN SKULL VALLEY SPENT FUEL STORAGE FACILITY

The proposed $125 million dollar storage facility is a larger version of the Surry Virginia Independent Spent Fuel Storage Facility. The proposed temporary spent fuel storage capacity is 40,000 metric tons, which is sufficient to accommodate all of the nation's spent fuel currently stored at the various power plants. During the life of the facility, construction requirements will include approximately $1 billion dollars in steel and concrete for the casks. There will be approximately 60 local jobs created by this project. This is sufficient employment for all of tribal members who wish to move back to the Goshute Reservation and find work. The revenue will also be sufficient to add land to the Reservation, build new housing and construct a badly needed reservoir to provide irrigation water year round.

The fuel rod assemblies will be stored in very heavy casks, which are licensed by the Nuclear Regulatory Commission. These spent fuel assemblies have been stored in fuel pools at 72 reactor sites in the 34 states that currently have nuclear power plants. These assemblies will be over ten years old and their thermal heat output will be negligible. Approximately 99.9% of the gamma and beta radiation of the fission products has dissipated within ten years of cooling. After 1,000 years, the activity of the remaining waste is comparable to the natural uranium ore from which the fuel was taken. There has been extensive study on spent fuel assemblies and their radiation properties.

YUCCA MOUNTAIN

Background

The purpose of the Yucca Mountain Site Characterization Project is to determine if Yucca Mountain, Nevada, is a suitable site for a spent nuclear fuel and high-level radioactive waste repository. These materials are a result of nuclear power generation and national defense programs and will remain highly radioactive for thousands of years.

Experts throughout the world agree that the most feasible and safe method for disposing of highly radioactive materials is to store them deep underground. Based on this consensus, the United States Congress passed the Nuclear Waste Policy Act of 1982 that directs the Department of Energy to find a site and characterize it. If the site is found suitable and a license application is approved by the Nuclear Regulatory Commission, the Department of Energy is to build and operate an underground disposal facility.

The project involves extensive scientific study on Yucca Mountain's geology, hydrology, biology, and climate. If found suitable, Yucca Mountain could be part of the nation's first long-term solution to a compelling environmental problem.

Operation

If the Department of Energy finds Yucca Mountain a suitable site for a repository, it must obtain a license from the Nuclear Regulatory Commission before building and operating the repository. According to current project schedules, the earliest the department could start operating a repository at Yucca Mountain is 2010.

Repository operations will include all activities associated with:

- transporting and receiving highly radioactive materials
- preparing the materials for placement in the repository
- placing the materials in the repository
- monitoring the repository over the long term

The department estimates that it will take 25 years to receive and place the materials in the repository. Experts will continually monitor the repository until the secretary of energy makes a decision to close it.

Licensing

The Nuclear Waste Policy Act, as amended, requires the Department of Energy to obtain a license from the Nuclear Regulatory Commission before it can build and operate a geologic repository for highly radioactive materials. The commission will base the license award on regulations designed to protect public health and safety for thousands of years. The following summarizes the repository licensing process.

- If the president and Congress approve a site recommendation from the secretary of Energy, the department will submit a license application to the commission in 2002.
- The commission will conduct extensive scientific reviews and hearings. If it concludes that the proposed repository meets requirements specified in the Code of Federal Regulations, the commission will grant authorization to begin construction in 2005. The department will then begin to build the repository.
- When the repository is near completion in 2008, the department will request authorization from the commission to begin operations.
- If the commission determines that the repository complies with all federal regulations, it will grant a repository operations license in 2010. The department will begin operations upon receipt of this license.

Site Recommendation

In 2001, the secretary of energy will make the decision whether to recommend Yucca Mountain to the president as the repository site for highly radioactive materials. The secretary will base this decision on the site characterization studies performed at Yucca Mountain since 1987. The secretary also will issue to the president (and to the public) a comprehensive statement that describes the scientific basis for the recommendation. This statement will include a final environmental impact statement.

If, after recommendation by the secretary, the president considers Yucca Mountain a suitable location for a repository, the president would recommend the site to Congress. According to the (NWPA), the state of Nevada would then have 60 days to submit a notice of disapproval to Congress. If Nevada does not submit a notice, Yucca Mountain would automatically become an approved site for a repository. If Nevada submits a notice, the site would be disapproved.

The NWPA specifies subsequent actions that Congress could take if the site is disapproved. According to the act, Congress has the option to propose and pass a joint resolution for repository siting approval within the first 90 calendar days of continuous congressional session after receiving Nevada's notice of disapproval. The president would then have to sign this joint resolution into law to grant site approval

ANNUAL REPORT 2000

Waste Isolation Pilot Plant

On October 19, 2000 at Carlsbad, N.M., the Waste Isolation Pilot Plant received its 100th shipment of defense-generated transuranic radioactive waste has arrived safely at the U.S. Department of Energy's (DOE) Waste Isolation Pilot Plant (WIPP). The shipment came from DOE's Rocky Flats Environmental Technology Site (RFETS) in Colorado.

This has been considered a major milestone for WIPP as it works towards cleaning up DOE sites across the country. Since beginning disposal operations on March 26, 1999, WIPP has received 21 shipments from the Idaho National Engineering and Environmental Laboratory, 59 shipments from RFETS, 17 from Los Alamos National Laboratory in New Mexico and 3 from the Hanford Site in Washington State. During the expected 35-year operating life of WIPP, DOE will transport some 19,300 loads of transuranic waste from 23 locations nationwide.

During the 794-mile trip, WIPP drivers stopped and inspected the truck every 100 miles or two hours. The inspection stops are performed in accordance with safety protocols developed by DOE and the Western Governor's Association.

WIPP, a cornerstone of the DOE's cleanup effort, is designed to permanently dispose of defense-generated transuranic radioactive waste left from the research and production of nuclear weapons.

Located in southeastern New Mexico, 26 miles east of Carlsbad, project facilities include disposal rooms excavated in an ancient, stable salt formation 2,150 feet (almost one- half mile) underground. Waste disposal operations began at WIPP March 26, 1999.

Transuranic waste consists of clothing, tools, rags, debris, residues, and other disposable items contaminated with radioactive elements, mostly plutonium.

APPENDIX B: FINANCIAL REPORTS

Radioactive Waste Fund and ACORWD Financial Report for Calendar Year (CY) 2000

014-10A-0143-03-2439

Income			
Note: bills assessed annually by 1 Sept. Payments may be made quarterly during the state's Fiscal Year Bills sent out based on 1999 generated waste will all be received by 1 April 2001 Bills are based on the Radioactive Waste fund set At $135,000 minus budget remaining at end of FY		FY2001 is from July 00 to June 01	CY2000 is from January to December
Generators		Billed FY2001	Received CY2000
Bowdoin College		$100.00	$100.00
Idexx Labs		$297.00	$297.00
The Mt Desert Island Bio Lab		$100.00	$100.00
Maine Yankee Atomic Power Co.		$120,938.00	$147,068.60
University of New England		$100.00	$100.00
Philips Elmet		$100.00	$100.00
University of Maine		$616.00	$616.00
Colby College		$100 .00	$100.00
	Total	$122,351.00	**$148,481.60**
Expenditures in CY2000		Beginning Balance	**($12,773.93)**
Expenses personnel		Amount	
3000 Personal services		$41,320.51	
3890 ACORWD perdiem		$1,815.00	
		Total	**($43,135.51)**
Expenses Overhead			
4000 Contractual services-professional services not by state, Catering		$7,697.14	
4100 In-State services, Admin. overhead		Not charged	
4200 Travel expenses in-state		$828.27	
4300 Travel expenses out-of-state		$1,763.16	
4600 Rents		$2,760.85	
4700 Repairs-computer maint. Agreement		$0.00	
4800 Insurance-on equipment		$0.00	
4900 Printing, postage, shipping		$661.50	
4970 ACORWD mileage		$290.48	
4980 ACORWD travel expense		$73.95	
5000 Employee training expenditures		$50.00	
5300 Technology expenditures, Telephone		$1,641.83	
5600 Other supplies		$2,957.80	
8500 Transfers to general fund-STACAP		$717.84	
		Total	**($19,442.82)**
Ending Balance			**$73,129.34**

Budget projections	**FY 2001**	**FY 2002**
Account carryover	$12,351.19	$21,795.78
Income	$122,351.00	$113,204.22
Salary/benefits	$43,799.74	$45,770.73
Admin overhead	$45,961.96	$26,082.08
Rent/power	$3,593.29	$3,772.95
Telephone	$1,052.42	$1,100.00
Computer service	$1,179.60	$1,200.00
Computer hardware	$1,800.00	$750.00
Comm./supplies	$2,959.06	$2,800.00
Sta. Cap	$800.00	$800.00
Training/travel	$9,760.34	$7,500.00
LLW Forum	$2,000	$2,000.00
Ending balance	**$21,795.78**	**$43,224.24**

APPENDIX C: LOW-LEVEL WASTE GENERATORS IN MAINE

NAME	LICENSE#	ACTIVITY	UNITS	VOL.(Cu. Ft.)	BILLED
BOWDOIN COLLEGE	05205	0.00003	curies	15.00	$ 100.00
COLBY COLLEGE	11219	0.00002	curies	15.00	$ 100.00
IDEXX LABORATORIES, INC.	05453	0.002	Curies	58.00	$ 297.00
PHILIPS ELMET	1703	2.724E-07	Curies	7.50	$ 100.00
MT DESERT ISLAND BIO LAB	09623	0.00002	Curies	7.50	$ 100.00
MYAPC	11601	189.5	Curies	11712.90	$ 120,938.00
UNIV OF N.E.	31815	0.025	Curies	5.30	$ 100.00
Univ of ME of Orono	19827-01	0.125	curies	112.5	$ 616.00
	Total act.	189.65207	Total vol.	11933.70	$ 122,351.00

ANNUAL REPORT 2000

APPENDIX D: ACORWD LIST OF APPOINTMENTS

Status/Name	Termination Date	Representing
Active – Bob Demkowicz Dept. of Environmental Protection State House Station # 17 Augusta, ME 04333 bob.a.demkowicz@state.me.us	Seat 1	Department of Environmental Protection Commissioner or Designee
Active - Clough Toppan, P.E., Director Division of Health Engineering 10 State House Station Augusta, ME 04333-010 e-mail: clough.toppan@state.me.us	Seat 2	Department of Human Services Commissioner or Designee
Active - Dr. Robert Marvinney State Geologist 22 State House Station Augusta, ME 04333-0022 e-mail: robert.marvinney@state.me.us	Seat 3	Maine State Geologist or Designee
Active - Jaime Mallon Maine Yankee Atomic Power Plant 321 Old Ferry Road Wiscassett, ME 04578 email: mallonj@myapc.com	December 31, 2000 Term expires Dec 31st of even numbered years. Seat 4	Representing a Maine Nuclear Power Plant Appt. by Governor
Non-Active - Steven Keegan 32 Morrell's Mill Road North Berwick, ME 03096	December 31, 1999 Term expires Dec 31st of even numbered years. Seat 5	Radioactive Material Licensee Representative Appt. by Senate President
Active - Joseph Blinick, PhD Maine Medical Center 22 Bramhall Street Portland, ME 04102 e-mail: blinij@mail.mmc.org	December 31, 2001 Term expires Dec 31st of odd numbered years. Seat 6	Radioactive Material Licensee Representative. Representing Maine Medical Center Appt. by Speaker of the House
Active - Sharon Treat Senator, State of Maine 28 Kingsbury Street Gardiner, ME 04345 e-mail: streat@powerlink.net	December 6, 2000 Term expires the first Wednesday in December of even numbered years Seat 7	State of Maine Appt. by President of the Senate. Belonging to Political Party holding the largest number of seats in the Senate
Active - Richard Carey (Chair) Senator, State of Maine PO Box 474 Belgrade, ME 04917	December 6, 2000 Term expires the first Wednesday in December of even numbered years seat 8	State of Maine. Appt. by President of the Senate. Belonging to Political Party holding the largest number of seats in the Senate
Active - Norman Ferguson Senator, State of Maine Box 36, Howard Pond Road Hanover, ME 04237	December 6, 2000 Term expires the first Wednesday in December of even numbered years Seat 9	State of Maine Appt. by President of the Senate. Belonging to Political Party holding the 2nd largest number of seats in the Senate
vacant	Term expires the first Wednesday in December of even numbered years Seat 10	State of Maine Appt. by Speaker of the House. Belonging to Political Party holding the largest number of seats in the House.
Active – David Shiah Representative, State of Maine 17 Dunn Farm Lane Bowdoinham, ME 04008 e-mail: dshiah@horton.col.k12.me.us	December 6, 2000 Term expires the first Wednesday in December of even numbered years Seat 11	State of Maine Appt. by Speaker of the House. Belonging to Political Party holding the largest number of seats in the House

APPENDIX C: ACORWD LIST OF APPOINTMENTS (con't)

Status/Name	Termination Date	Representing
Active – Charles Laverdiere Representative, State of Maine PO Box 670 Wilton, ME 04294 e-mail: repccl@somtel.com	December 2, 1998 (reappointing) Term expires the first Wednesday in December of even numbered years Seat 12	State of Maine Appt. by Speaker of the House. Belonging to Political Party holding the 2nd largest number of seats in the House. **NOTE: will be moved to seat 10**
Active - Ron Ouellette Physics Consultants INC 194 Ashmont St. Portland, ME 04103 e-mail: rono@ime.net	December 31, 1999 (reappointing) Term expires Dec 31st of odd numbered years. Seat 13	Public Member with knowledge of and interest in the management of radioactive materials and waste. Appt. by Governor
Active-June Meres 376 Bigelow Hill Road Norridgewock, ME 04957 e-mail: meresjc@mint.net	December 31, 2000 Term expires Dec 31st of even numbered years. Seat 14	Public Member with knowledge of and interest in the management of radioactive materials and waste. Appt. by Governor
Active- Stephen Jarrett P.O. Box 383 Wiscasset, Maine 04578 email: smj@ceimaine.org	December 31, 2001 Term expires December 31st of odd numbered years Seat 15	Public member with Knowledge of and interest in the management of radioactive materials and waste. Appt. by Senate President
Active – James Mitchell 52 Birch Point Road Freeport, Maine 04332 email: jmitch8564@aol.com	December 31, 1998 (reappointing) Term expires December 31st of even numbered years Seat 16	Public Member with Knowledge of and interest in the management of radioactive materials and waste Appt. by Speaker of the House
Active - Don Hudson, Ph.D. Chewonki Foundation 485 Chewonki Neck Road Wiscassett, ME 04579 e-mail: dhudson@chewonki.org	December 31, 2000 Term expires December 31st of even numbered years Seat 17	Representing Environmental Advocacy Organization Appt. by Speaker of the House