

Approved 3/3/87
Date

MINUTES OF THE SENATE COMMITTEE ON ENERGY & NATURAL RESOURCES

The meeting was called to order by Representative Fox, Chairman, Joint Meeting at
Chairperson

8:00 a.m. ~~XXX~~ on February 19, 1987 in room 313-S of the Capitol.

All members were present except:
Senator Eric Yost

Committee staff present:
Ramon Powers - Research
Don Hayward - Revisor
Nancy Jones - Secretary

Conferees appearing before the committee:
Secretary Jack Walker - Department of Health & Environment
Ray Perry - Executive Director, Central Interstate Compact

This was a Joint meeting held with the House Energy & Natural Resources and House Federal and State Affairs Committees for the purpose of a briefing by staff members and Mr. Perry on the Central Interstate Low-Level Radioactive Waste Compact.

Minutes, as recorded by House Committee Secretary are attached.
and attachments

Approved _____
HOUSE ENERGY AND NATURAL RESOURCES
HOUSE FEDERAL AND STATE AFFAIRS
Date _____
SENATE ENERGY AND NATURAL RESOURCES

MINUTES OF THE JOINT COMMITTEE ON _____

The meeting was called to order by Representative Ron Fox at _____
Chairperson

8:00 a.m. ~~pm~~ on February 19, 1987 in room 313-S of the Capitol.

All members were present except:

Committee staff present:

Ramon Powers, Legislative Research Department
Theresa Kiernan, Revisor of Statutes' Office
Betty Ellison, Secretary, House Energy and Natural Resources
Lynda Hutfles, Secretary, House Federal and State Affairs
Nancy Jones, Secretary, Senate Energy and Natural Resources

Conferees appearing before the committee:

Ramon Powers, Legislative Research Department
Lt. Governor Jack D. Walker
Raymond J. Peery, Executive Director, Central Interstate Low-Level
Radioactive Waste Compact Commission, Atlanta, GA

Staff gave a background report relative to waste disposal facilities, interstate compacts, and the Central States Low-Level Radioactive Waste Compact. (Attachment 1)

Lt. Governor Jack Walker, Secretary of Kansas Department of Health and Environment (KDHE), introduced Sharad Bhatia, Director of Division of Environment, and Harold Spiker, Chief of Environmental Surveillance and Planning for the Department. Dr. Walker gave an overview of KDHE's "white paper" on the Low-Level Radioactive Waste Compact. (A copy of the "white paper" may be found in the Legislative Research Department.) Attachment 2

Dr. Walker stressed that it was mandatory for the Legislature and the Governor to decide whether or not to remain in the Compact during this legislative session, because a site plan must be developed by the end of 1987. The site plan will require an appropriation of some \$500,000-\$750,000. It was not clear whether the developer, the state or the Compact would be obligated to pay this expense.

Ray Peery, Executive Director of the Central Interstate Low-Level Radioactive Waste Compact, explained to the committees the long process of Kansas entering into the Compact.

He commented that many of the questions currently being raised are not new, but have been asked during the past six years since the Compact was initiated. The negotiations between the states took approximately two years, followed by at least another year for the legislatures of the five states to adopt the Compact. Following that, the Compact was submitted to the Congress of the United States, which during the consent process, took up the issue of our Compact with the Compacts of the 1985 Amendments Act. During that six year span, all of the issues were discussed by many people. The 1985 Amendments Act was sponsored primarily by Senator Dole. More than six committees of both Houses of the U.S. Congress considered this legislation for over 2½ years. Numerous hearings were held in Washington and in select locations around the country. Everyone who had a remote interest in this legislation was given the opportunity to have input into the drafting of the 1985 Amendments Act and the legislation which ultimately came out.

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The National Governors Association, the National Conference of State Legislatures, industry groups, utility groups, National Sierra Club, Environmental Policy Institute, National Resource Defense Council, all testified in favor of the 1985 Amendments Act from the Compact concept. During that process, the issue of single state option also came up. It was well known at the time that the State of Texas had chosen the option of going it alone. They predicated their belief that they could exclude waste on a Texas Attorneys General opinion and there were Attorneys General from other states that said the opposite. The issue for single state option to allow exclusionary authority was brought up in the Energy Committee of the U.S. House of Representatives and was voted down. Therefore, there was no provision made in the 1985 Amendments Act to allow individual states to go it alone and have the same authority as the Compacts. One of the prime reasons in thinking this was that the Congress intended for this particular type of waste to be managed on a regional basis. The reasons were both environmental and economical.

The economics are very obvious--it would be much more cost effective to have one regional facility than a lot of facilities at the same cost. Environmentally, it is not sound because a lot of people in Congress could see hazardous waste facilities springing up around the country and not being properly regulated. The intent here is to insure that this does not happen with low-level radioactive waste. Instead, we would have a minimum number of facilities around the country that are properly developed and regulated. The Compact would be adding another regulatory system to these toxic facilities. The Compact initially selects a developer who meets the standards of criteria and a developer who would locate into the state and apply for a license application. It is the intent of this Compact that the individual host state would have the ultimate authority over the licensing of this type of facility. If a site is selected in a state and the site is not licensed by the host state, we start over again. The Compact cannot and will not demand that a particular site be licensed.

Mr. Peery discussed what the Compact is doing in regard to siting and licensing. There seem to be a lot of questions about what is happening in Arkansas and Nebraska, as well as what is happening in the Phase II Study. There was a draft of the Phase II Study out to the states for their review. The draft was not public at the time because it was not complete. There was no intent to hide that document, but the document will be coming out for public review and public hearings will be held to take comments and suggestions for changes. No site has been selected in this region. The Phase II document lists approximately 173 potential siting areas; that does not mean that you can license a facility in this area. This means that based upon the criteria of the licensing requirements on its face, Kansas has not been excluded. On closer examination, it may in fact be excluded. The Phase II study by necessity was very broad in nature.

The Phase III Study basically determines what any developer will have to do in licensing this type of facility. Specific on-site core borings and in-depth analysis of the geological study for that particular area will be required. Relative to the question of who is going to pay for the siting, Mr. Peery advised that the Compact also has to meet that requirement of the 1985 Amendments Act which states that by the end of this year we have to come up with a site. The developer will have to have a plan for the site and the developer will have to bear the cost of facility, not the state. All along, the intent of the Compact has been to minimize the extent of the cost to the individual states for this process. The view of the Commission has always been that the generator should bear the cost as much as possible. There is an initial \$25,000 fee which the states pay which basically

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is for the administrative functions of the Commission and that alone. Currently, we are looking at the possibility of having a joint funding venture with the developer. The developers have indicated to the Compact that the amount of waste generated by this region will not be economically feasible. The Compact has looked at the possibility and asked them to recommend how much they would anticipate to be off-set primarily for the environmental studies, analysis, etc. The Compact will consider these estimates. The Compact must decide on some other funding mechanisms. This matter has already been discussed with the generators and they will be assessed to pay for that particular type of work. Hospitals and academic institutions cannot really afford the potentially higher cost; hence some way of off-setting costs of \$200 per cubic foot and \$100 per cubic foot will not be cheap, but it is not astronomical. Perhaps to a utility or someone large, it is astronomical, but it would be impossible for a hospital or university to absorb.

The Commission has not excluded any type of waste disposal in this region. We have not precluded above ground disposal. The only thing we have precluded is pre-1979 shallow land burial. In the guidelines of 1961, the Nuclear Regulatory Commission has made it very clear that those are going to be minimum siting requirements no matter what type of facility you have--below ground, above ground, engineer, vaults, anything.

The process schedule is as follows:

Release proposals - - - - - February 1

Letters from potential developers - - - February 21
(Expect between 3 and 4 developers)

Proposals required back - - - - - April 1

Commission will release proposals to repositories for public review and hearings.

Selection in early June, if a proposal is accepted. We do not have to accept a proposal!

If a proposal is selected, by the end of this year we must do two things:

1. Name a host state.
2. Come up with a siting plan.

During 1988, the developer will be working with selected communities that have been identified as being potential sites for facilities. There will be a negotiation process between the developer, the Commission, and the state to determine who will take this type of facility and under what terms.

The Compact is now looking at one facility in the region as opposed to a number of facilities, based on the amount of waste you have. The Commission believes, given the studies over the last few years, that one regional facility is the most environmentally sound approach that can be taken and it would economically spread the cost so it would not be on one individual state.

The Commission has maintained its office out of the region so that no one state would have any more influence over the process than any other state. Mr. Peery felt that this Commission had been more fair and done more to meet its responsibilities than any other region had. He noted that the staff in Atlanta always remains accessible for questions or anything they can provide.

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Questions and answers related to Raymond Peery:

Senator Werts: If states start withdrawing, and we know of at least three states which have had bills introduced which would cause this to happen, at what point would the Compact fall apart?

Mr. Peery: It's hard to say at what point the other states decide that they can't go forward with the Compact. The question is so complex. If one state alone withdraws, say the State of Kansas, it is my personal belief that the bill in Arkansas will not be coming out of committee. The legislation in Nebraska is not a bill to get out of the Compact, it is a bill that says if they are selected as the host state, the legislature at that time will make a decision whether to stay in or get out. It is my belief that the bill will not be going anywhere. If one state should get out, I believe that the Compact would still make the decision to go forward with a four state Compact.

Rep. Fox: If we made the decision to get out of the Compact by say, June 1 of this year, would our fee assessment be the \$125,000 over the next five years or what you just said, that we also would be assessed for those additional fees that would be relative to the operation of the site, in your opinion?

Mr. Peery: There is a potential for that, but that is not resolved. That would have to be a decision of the Commission, whether or not to assess those fees. Legally, under the Compact, withdrawal would have to take place in five years. Therefore, if you were assessing fees on the generators in Arkansas during that five year period, you would continue to assess those fees on your generators.

Sen. Martin: Under 65-34A01, which is part of our Low-Level Radioactive Waste Compact statute, if withdrawal doesn't take place until five years later, after the Governor gives notice, what are the liabilities and how severe are they?

Mr. Peery: Speculation at this point is that over the next five years, we would probably assess between \$300,000 and \$400,000 per year, per utility.

Sen. Martin: So Kansas, with one utility, could be assessed additional fees of up to \$300,000. Are there appeal rights for us?

Mr. Peery: Yes, in the federal courts.

Sen. Martin: Under Article VI, which deals with other laws and regulations, it states that nothing in this Compact shall be construed to prohibit or otherwise restrict the management of waste on the site where it is generated if such is otherwise lawful. That seems to me to say that we could, unless it is otherwise unlawful, put the waste on site.

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- Mr. Peery: That provision was put in specifically with regard to current Nuclear Regulatory Commission regulations which allow for five year on-site storage. We cannot interfere with that particular allocation of NRC regulation.
- Sen. Martin: So those regulations would have to be abandoned.
- Mr. Peery: That is correct. That would relate only to storage. Any disposal at that site would still have to be licensed at that disposal facility and would have to meet the guidelines and licensing criteria.
- Sen. Kerr: If a state is selected as a host state, what sort of authority or latitude does the state have to dictate terms such as length of time, economic benefit, etc.?
- Mr. Peery: At this time, the first host state can probably write its own ticket with regard to specifying how long the state may want to host the facility, perhaps 20 years instead of 30 years, and "X" amount of waste. They could negotiate as much as they want in terms of economics between the developer and the state. The state that is first selected may do what the state of North Carolina has chosen to do--that is to go back to the Compact Commission and request that new language be added to tighten up the Compact to assure that no state would be able to drop out. North Carolina initially said, "There is no way we are going to do it--we are getting out of the Compact." The matter was discussed fully and they made the determination that they would go forward and host the facility. However, we are requesting that language be put in the Compact that prohibits other states from getting out.
- Rep. Roe: Regarding fairness of the Compact, isn't it unusual that Kansas, which is the lowest volume producer of waste in our Compact, would be selected as the host state?
- Mr. Peery: It is a very complex issue. The only thing I can say to you is that someone is going to be lowest and someone is going to be highest. I think the degrees of low and high in this region are pretty close together, compared to some other states.
- Rep. Roe: If we had a statewide ban on underground burial of low-level radioactive waste, do you think that would violate the rules of the Compact?
- Mr. Peery: I can't say. Personally, I would not like to see that bill passed. However, I think if that bill were to pass, it should pass quickly, so potential developers could operate under it.
- Rep. Roe: Following up on one of Senator Martin's questions relating to the Tennessee Valley Authority, it is my understanding that they operate under some exceptions.

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- Mr. Peery: You have to understand that the Tennessee Valley Authority tends to operate a little differently. They have some rules which are different from all others.
- Rep. Fox: Following up on Representative Roe's point--there have been exceptions made already, even though the Tennessee Valley Authority does operate under different rules from everyone else.
- Rep. Fry: In my area, we have what we call an abandoned salt mine. Could they be used for disposal without an environmental impact study? There are around \$105,000 people living on top of it, . . . aquifers, and all that. If we go down to deep cavity, is that engineered?
- Mr. Peery: The gentleman who makes that proposal . . . I can't comment on that because there is a chance that we would get that proposal and the proposal would be looked at on its merits or demerits. That is all I can say.
- Rep. Fry: If I understand you right, the engineered part . . . I don't believe you answered me on that.
- Mr. Peery: He maintains this is a totally different type of system than even engineered. It is a deep lying cavity, sunken off all to itself.
- Rep. Fry: Then it's different from burial or above ground disposal/storage?
- Mr. Peery: Yes, it is. I'm not sure I can get answers because I'm not sure NRC has the answers. As I said, it would be considered on its merits or demerits.
- Sen. Werts: It is my understanding that if the proposal were to go to this, the State of Kansas would have the final authority on approving a site.
- Mr. Peery: That is correct.
- Rep. Grotewiel: Is the state that is selected, which is a decision that the Compact makes, influenced by the proposals that are submitted by the developers, or does the Compact select the site and then look at proposals that are for that state?
- Mr. Peery: We look only at the proposals--we do not select the state.
- Rep. Grotewiel: So you look at all four proposals and pick essentially the state and the site at the same time?
- Mr. Peery: No, those are picked later. The proposals we get are going to be analyzed and chosen purely on technical merit. When I say technical merit, I'm talking about the design of the facility, the finance capabilities of the past history. There is only one proposal that is a potential proposal.

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- Rep. Grotewiel: And once you have accepted one of those, how do you go about selecting the actual state and then the actual site?
- Mr. Peery: The developer does that after they have had an opportunity to negotiate with the state and with the local community. The Compact terms do not specify the exact terms of licensing.
- Rep. Grotewiel: Then you would say that the statutes that the state had selected would have some flexibility in determining what kind of storage?
- Mr. Peery: To a degree. The NRC is required by the 1985 Act to come up with licensing requirements for alternative disposal acts. They are currently supposedly working with the states and with the Compacts to come up with a standard criteria. The NRC sets standard licensing authority on facilities.
- Rep. Holmes: Originally there were six sites in the United States; three of them have been closed down due to shallow water. The Dames and Moore report that came out had some exclusionary areas. Why was shallow groundwater not one of those criteria? If it was, why were areas selected with only five feet of the surface and groundwater beneath?
- Mr. Peery: The reports are not conclusive. The information that reports were based on was existing documentation of state geological maps and other published information.
- Sen. Daniels: Would you explain why, if the site is in Oklahoma, it would be submitted to the NRC, rather than to the Compact or the host state?
- Mr. Peery: The State of Oklahoma is the only state in this Compact that is not what is called an "agreement state." The reason for that is that Oklahoma has never seen the need to establish within the state system, an agency to deal with that. I suspect that if Oklahoma were selected, they would probably get their status very quickly so they would have a choice.
- Rep. Webb: Due to the fact that they have picked six sites and three have been closed because of problems, I understand some of the sites we have do have some leaching. If there is no question how safe underground-shallow ground burial is, what is wrong with the theory of changing the NRC rules which take just five years-- as I understand it, they can go five years and ask for another five years and another, indefinitely. There will always be a low-level site at the nuclear power plant.
- Mr. Peery: Most utilities do not store on site now. For environmental reasons, they would like to get the material off-site as quickly as possible. The three sites that were closed were built way-back-when. Under the regulations that apply today, those sites could not be

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built and the regulations today specifically address the problem encountered because they were geologically not sound areas. Most nuclear power plants require water and have to be near a very large water source, which you don't want anywhere near a low-level waste disposal because of the chance that there might be seepage. That's one reason alone that you do not want it at a nuclear power plant. From another perspective, the nuclear power industry is not in the business of waste disposal. We are not sure that they are best suited to dispose of these wastes. It is a better policy to have those who are in the business of disposal handling it.

Rep. Fox:

Some general broad questions that will be coming as we move through this are:

1. Based on 1982 projections of waste, do you have any of those original waste projections based upon present waste? There is considerable concern by some members of the Compact relative to you not having those fully documented amounts of waste. At some point in time, you will have to face that.
2. The funding question isn't answered.
3. The question of prohibition of burial versus above ground is still very unclear.
4. The ultimate decision for selection of a site is made by the proposed host state. Is that not correct?

Mr. Perry: Yes, that is correct.

The meeting was adjourned at 9:30 a.m.

Date: Feb. 19, 1987

GUEST REGISTER

HOUSE

COMMITTEE ON ENERGY AND NATURAL RESOURCES

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Date: Feb. 19, 1987

GUEST REGISTER

HOUSE

COMMITTEE ON ENERGY AND NATURAL RESOURCES

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MEMORANDUM

February 18, 1987

FROM: Kansas Legislative Research Department

RE: The Central Interstate Low-Level Radioactive Waste Compact

Definition

Low-level radioactive wastes are materials that have become contaminated by radioactive elements or radionuclides. Low-level radioactive wastes are usually defined primarily in terms of what they are not; for example, they do not include spent reactor fuel, wastes from the reprocessed reactor fuel, uranium mine and mill tailings (residue), or materials contaminated with specific levels of transuranic elements.*

High-level radioactive wastes contain greater concentrations of radioactive elements and long-lived radionuclides. Consequently, spent fuel, mill tailings, and transuranic wastes must be isolated much longer than low-level radioactive wastes. Spent fuel and wastes from reprocessing require shielding and cooling due to their intense levels of radioactivity and heat.

Low-level wastes require less shielding than high-level wastes and no cooling. The half-life, i.e., the time that it takes for a particular radioactive isotope to decay to one-half of its original activity, of most of the radionuclides in low-level radioactive wastes can be measured in days, weeks, or decades, rather than hundreds or thousands of years as in the case of high-level wastes; however, some concentrations of long-lived radionuclides may be present in low-level radioactive wastes. Since the half-life of radionuclides cannot be altered by chemical or physical processes, some low-level radioactive wastes will have to be contained and managed for extended periods of time.

Description

Low-level radioactive wastes are produced in a variety of forms including contaminated paper towels, plastic gloves and clothes, machinery parts, medical treatment materials, animal carcasses, organic and aqueous liquids, and sludges. Producers and generators of low-level waste include commercial power reactors, hospitals, research institutions, industry, and the federal government. It is estimated that commercial power reactors in 1983, produced 62 percent of the volume of low-level radioactive wastes created in that year; hospitals, clinics, and research institutions produced 11 percent; industry, 25 percent; and government, 2 percent. All states produce some radioactive wastes; however, ten states produce 73 percent of all of the wastes disposed of at the country's three commercial disposal sites in Nevada, Washington, and South Carolina. In 1985, 26,806,504 cubic feet of low-level

* A transuranic element has a higher atomic number than that of uranium.

Attachment 1
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Energy
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radioactive waste were produced in the United States and disposed of at the three disposal sites. Kansas produced 1,695 cubic feet of waste in 1985.

Background

In 1979, the states of Nevada and Washington temporarily closed their commercial low-level radioactive waste disposal facilities, and South Carolina, the only other state with such a facility, restricted the amount of wastes it would accept. All three states announced, at that time, that they did not intend to continue accepting all of the nation's commercial low-level radioactive wastes. In response, Congress passed the Low-Level Radioactive Waste Policy Act in December of 1980 (P.L. 96-573) giving each state the responsibility for the disposal of commercial low-level radioactive wastes generated within its border. Congress further declared that low-level wastes could be most efficiently and safely managed on a regional basis and authorized states to enter into compacts to establish and operate regional disposal sites. These compacts, which Congress must approve, would allow these regional groups of states after January 1, 1986, to exclude wastes generated outside the compact region.

As the deadline for formation of compacts and the creation of low-level radioactive waste disposal facilities within the Compact regions drew closer and it was obvious that sufficient compact arrangements had not developed and no regional facilities were even contemplated, Congress finally acted. In December of 1985, Congress enacted the Low-Level Radioactive Waste Policy Amendments Act (P.L. 99-240) which established a new series of requirements for the states. The 1985 Act, the result of an agreement between the federal government and South Carolina, Washington, and Nevada, stipulated that the states would continue to temporarily accept low-level radioactive waste, but in reduced amounts. According to the Act those states that failed to reduce the volume of wastes transported to those sites would be subject to penalties. Seven interstate compacts received Congressional approval under P.L. 99-240: the Southeast, Northwest, Rocky Mountain, Central States, Central Midwest, Midwest, and Northeast.

The new milestones created by the 1985 Act provided that each state would either join a low-level radioactive waste compact or indicate its intent to develop within its own borders a facility for disposal of low-level waste by July 1, 1986. Until December 31, 1986, the three states with operating low-level waste sites, Nevada, South Carolina, and Washington, could charge double the normal surcharge to persons disposing wastes from states which failed to meet the July 1, 1986, deadline. Beginning January 1, 1987, the three states could deny disposal access to persons from states which still failed to join a compact or indicate intent to develop a disposal site.

The 1985 Act also provides that each compact commission must identify a "host state" for its low-level radioactive waste disposal facility by January 1, 1988, and each host state must have a plan for establishing the location for a facility. States that are not members of a compact must develop plans for choosing facility sites within their own borders.

By January 1, 1990, a complete application (as determined by the NRC or appropriate agreement state agency) must be filed for a licence to operate a

low-level radioactive waste disposal facility within each compact region or the nonmember state; or the Governor of any state that is not a member of a compact region must provide a written certification to the Nuclear Regulatory Commission, that such state will be capable of providing for, and will provide for, the storage, disposal, or management of any low-level radioactive waste generated within such state and requiring disposal after December 31, 1992.

Also, by January 1, 1990, noncompact states must file applications to operate disposal facilities or must certify to the NRC that they will locate low-level waste storage or disposal sites within their own borders after December 31, 1991. States not meeting the January 1, 1990, deadline could be denied access to the three states presently hosting disposal sites.

As long as states are meeting a timetable for developing new sites, either within a compact or within their own borders, they have until December 31, 1992, to comply with the Low-Level Radioactive Waste Policy Act of 1980 and the Low-Level Radioactive Waste Policy Amendments Act of 1985. By January 1, 1993, all states will be required to have made provisions for disposal of all low-level radioactive wastes generated within each respective state.

By January 1, 1992, if a nonsited compact region or a nonmember state fails to secure access to a licensed facility, any generator of low-level radioactive waste in the region or the nonmember state would be charged three times the surcharge specified in the 1986 Act, i.e., \$120 per cubic foot. If a nonsited compact region or a nonmember state fails to provide for disposal of low-level radioactive waste by January 1, 1993, such region or state must take title to the waste generated in the region or state or incur the additional penalty of refunding part of the surcharge to the generators. By January 1, 1996, all noncomplying compact regions or states must take title and possession of all low-level radioactive waste generated in the region or state.

Interstate Compacts

To date, 11 regions have formed and negotiated compacts; however, only nine compacts have been submitted to Congress for approval. The northern New England states negotiated a compact, but not all the states in that region have joined; and California, Texas, and New York are proposing to manage their own waste. Kansas assumed a lead role in the formation of the Central Interstate Low-Level Radioactive Waste Compact, which currently includes the states of Kansas, Nebraska, Oklahoma, Arkansas, and Louisiana. Kansas formally entered into the Central Interstate Compact in 1982 when the Legislature approved the Compact and enacted it into law in K.S.A. 65-34a01 et seq. The Compact provided for creation of the Central Interstate Low-Level Radioactive Waste Commission with one voting member from each state. Kansas' member is the Secretary of the Kansas Department of Health and Environment (KDHE); the alternative member is the Director of the Division of Environment of KDHE. At the same time that the Legislature enacted the Compact, it created an Advisory Board on Low-Level Radioactive Waste consisting of legislators, agency personnel, and appointees of the Governor.

The Central States Low-Level Radioactive
Waste Compact

Substitute for H.B. 2809, which was enacted in the 1982 Session, contains the text of the Central Interstate Low-Level Radioactive Waste Compact. The states initially eligible for membership in the Compact were: Arkansas, Iowa, Kansas, Louisiana, Minnesota, Missouri, Nebraska, North Dakota, and Oklahoma. The Compact became effective after enactment by three of the eligible states and consent by Congress.

Under the Compact, the member states recognize that each state in the Compact is responsible for the management of its low-level radioactive wastes. It is the purpose of the Compact:

1. to provide sufficient facilities for the proper management of low-level waste within the region;
2. to limit the number of facilities required to effectively and efficiently manage waste generated within the region;
3. to encourage the reduction in amounts of low-level waste generated in the region; and
4. to ensure the ecological and economical management of low-level radioactive wastes.

Initial eligibility for membership in the Compact terminated on January 1, 1984. To become a member of the Compact, unanimous approval of the Compact Commission is required for any state not initially eligible or those states initially eligible which did not enact the Compact into law prior to January 1, 1984.

The Compact Commission is created by the Compact with each party state having one vote. The Commission will operate by majority vote on most issues. Unanimity is required for certain issues. Prior to development and operation of a facility, however, each party state contributes equally. Initial funding was set at \$25,000 for each state. Once a regional facility is established, the host state of the facility will levy a surcharge on all users of the facility sufficient to cover the annual budget of the Commission and any administrative costs incurred by the host state.

Included in the powers and duties of the Commission is authority:

1. to make a preliminary selection of the best facility proposal or proposals;
2. to require states to submit pertinent data and information to the Commission;
3. to hear and negotiate disputes among the party states;
4. to act as an intervenor or a party in interest in any judicial proceeding;

5. to set and approve an annual budget; and
6. to retain a staff and to contract for services.

The site selection procedure provides that any party state may volunteer as a host state for a facility. If no state volunteers, the Commission solicits proposals for the development and operation of a regional facility with the Commission determining criteria for the preliminary selection of a regional facility, including:

1. applicant's capability to obtain a license;
2. applicant's financial assurances;
3. economic efficiency of the proposed facility;
4. the accessibility of the proposed facility to the party states;
and
5. other criteria as deemed necessary by the Commission.

Based on the criteria, the Commission makes a preliminary selection of the best proposal. The preliminary selection does not become final until the licensing agency of the state where the proposed facility is located (or the Nuclear Regulatory Commission, if such state is not an "agreement state") processes and approves a license for the facility. The appropriate licensing authority may disapprove the license for any valid reason, but a disapproval, which is found to be arbitrary and capricious, could result in the expulsion of the state from the Compact.

A state where a facility is located (*i.e.*, host state) has the responsibility to process applications within a reasonable period of time; review and approve rates set by the operator of a facility; fix a users fee to cover costs of regulating, monitoring, and providing for perpetual care of sites; help fund the Commission's budget; and regulate the development and operation of a regional facility.

All party states have the responsibility of enforcing any applicable laws relating to packaging and transportation of low-level waste; funding the initial budget of the Commission; and funding the expenses of the state's Commission member.

If the fees fixed by the host state are found to be inadequate, and if the host state has allowed the Commission to review and approve the fee system, then the party states are to share in the costs associated with the regulating, monitoring, and perpetual care of a facility.

Any state may withdraw from the Compact by repealing the Compact statute. Unless permitted earlier by unanimous approval of the Commission, such withdrawal will take effect five years after the Governor of the withdrawing state has given notice in writing of the withdrawal to each governor of the

party states. No withdrawal shall affect any liability already incurred by or chargeable to a party state prior to the time of such withdrawal.

After January 1, 1986, the Compact would have made it unlawful, unless otherwise authorized by the Commission, for any person to export waste generated within the region to any facility outside the region, or import or accept waste generated outside the region to any facility within the Compact region.

In addition, the 1982 Legislature enacted H.B. 2810, which authorized the Secretary of KDHE to be the representative of the state of Kansas to the Central Interstate Low-Level Radioactive Waste Compact Commission. The Director of the Division of the Environment of KDHE would act as the alternate to the Secretary.

The bill also established the Advisory Board on Low-Level Radioactive Waste which is to consult with and advise the state's representative to the Commission on technical and policy matters. The Advisory Board consists of the Secretary of KDHE, who serves as chairperson; the Director of the Division of the Environment of KDHE; the Director of the Bureau of Radiation Control (now the Manager of the Bureau of Air Quality and Radiation Control), at KDHE; a representative of the Governor's Office; the Chairperson of the Senate Committee on Energy and Natural Resources; a member of the Senate Committee on Energy and Natural Resources designated by the Senate Minority Leader; the Chairperson of the House Committee on Energy and Natural Resources; a member of the House Committee on Energy and Natural Resources designated by the House Minority Leader; and two public members appointed by the Governor. The Director of the Legislative Research Department and the Revisor of Statutes or their designees will assist the Advisory Board.

To provide for the implementation of Article II of the Central Interstate Low-Level Radioactive Waste Compact, the State Corporation Commission is designated as the agency responsible for the review of rates of any facility that might be established in Kansas under the provisions of the Compact.

Joseph Harkins, then Secretary of KDHE, described the unique features of the Central States Compact in a presentation to a 1982 National Governors' Association Conference (NGA) meeting on low-level radioactive waste disposal. Mr. Harkins was Kansas' chief negotiator in the drafting of the Compact. He told the NGA conference participants:

The compact in the Central states group that we have developed has one unique feature -- the technique for selecting a site. I have not studied all of the other compacts, but I believe most provide that a commission will select a host state. Our compact does not have that provision in it. We put a provision in that allows a state to volunteer to be a host state, but we do not expect that to occur in the Central states region. After each state has been given an opportunity to volunteer, there is an alternate provision for a siting process. First, the commission would establish certain review criteria for proposals and then accept proposals from private developers. The commission would compare the proposals with the criteria and make an initial selection of the most appropriate proposal to serve the needs of the region. It would be at that point that we would determine who the host state would be. The private applicant would then be authorized

to go to the host state to apply for a license, if it is an Agreement State, or go to the NRC to apply for a license, if it is not an Agreement State.

There is a reason why we chose the above procedure: the states which constitute our region feel expressly that the decision about siting a facility is the crucial one. Further, we did not feel that state legislatures in some of the states would be willing to choose between two or three or four options within the boundaries of their particular state. In other words, the identification of a host state up front puts the responsibility ultimately in the hands of the state legislature which makes the decision regarding the location within its boundaries of the regional facility. For many of us (including Kansas - which is one of the smallest producers of low level nuclear waste in the country), it would be very simple at that point for the state legislature to conclude if it is going to have to make this decision to put a facility in some of our neighbors' back yards, it would just be easier to get out now and develop one for ourselves. We tried to devise a mechanism that would deal with and possibly prevent that occurrence. The only other important issue in our compact which has not been emphasized today is that we do have a provision for rate regulation in the compact. We feel very strongly that each compact should contain a provision for rate regulation because of the unique economic advantages that the site operator will be granted once the compact is in operation.

D87-37/RP

Low-Level Radioactive Waste
Management

Kansas Department of Health and Environment
February 1987

Attachment 2

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Ewings
2-19-87

I. INTRODUCTION

The subject of low-level radioactive waste (llrw) management has been the focal point of much emotion, controversy, and activity in recent months. Actions taken in the next few months will critically influence the entire picture of low-level radioactive waste management for Kansas in particular and the Central Interstate Low Level Radioactive Waste Compact Commission (CILLRWCC) in general. This paper provides a comprehensive review of the problem and explores the various options that have been suggested for the State of Kansas.

II. BACKGROUND

Low level radioactive waste (llrw) is defined by the federal Low Level Radioactive Waste Policy Amendments Act of 1985 as "radioactive material that (a) is not high level radioactive waste, spent nuclear fuel, or byproduct material (as defined in Section 11 e.(2) of the Atomic Energy Act of 1954 (42 U.S.C. 2014 (e)(2))); and (b) the Nuclear Regulatory Commission (NRC), consistent with existing law and in accordance with (a) above, classifies as low level radioactive waste." It is produced by nuclear reactors, industrial sources, and medical and educational institutions. In order to reduce the risk of undue radiation exposure to the general public, it must be disposed of properly.

In 1979 there were only three licensed low-level radioactive waste disposal facilities in the nation: Barnwell, South Carolina; Beatty, Nevada; and, Hanford, Washington. During that year the governors of the three states voiced their concerns about the amount of low-level radioactive waste being disposed of at the facilities in those three states. In the fall of 1979, the facilities in Nevada and Washington were temporarily closed by orders of their respective governors. The facility in South Carolina was required by the state to reduce the scope of its operation. It became apparent that the governors of these three states would no longer allow their states to remain the disposal site for the entire nation.

In response to the considerable political pressure mounted by the three states, the United States Congress, in December, 1980, passed the Low-Level Radioactive Waste Policy Act (Public Law 96-573). The Act established a federal policy that each state is "responsible for providing for the disposal of waste" by January 1, 1986, and encouraged states to enter into interstate compacts for the purpose of meeting their responsibility.

The message was now clear that the status quo of low-level radioactive waste disposal was no longer an option. Each individual state would be required to provide for the disposal of low-level radioactive waste generated within its borders -- or to enter into interstate compacts to develop regional facilities.

As a result, regional compact discussions began throughout the country. In the heartland, representatives from Arkansas, Kansas, Missouri, and Oklahoma first met in Kansas City, Missouri, on February 18, 1981, to discuss a regional approach to the management of low-level radioactive waste. At subsequent meetings they were joined by representatives from Iowa, Louisiana, Nebraska, New Mexico, and Texas.

On October 6 and 7, 1981, the conferees met and agreed to draft compact language. The conferees also agreed to invite the states of North Dakota and South Dakota to join in the compact negotiations. Minnesota, on its own initiative, sent a representative to this meeting, while New Mexico withdrew from the negotiations. In the interim, Texas had decided to seek a unilateral solution to low-level radioactive waste management and announced that it would no longer be participating in further compact negotiations.

After a series of meetings, on January 29, 1982, the conferees met in Kansas City, Missouri, to finalize the compact document. This document was eventually ratified by the five states -- Nebraska, Kansas, Oklahoma, Arkansas, and Louisiana -- which now formally constitute the Central Interstate Low-Level Radioactive Waste Compact Commission (hereinafter, the "Commission"). The Kansas Legislature enacted compact law in 1982, K.S.A. 65-34a01, et seq. The five-state compact was ratified by the U.S. Congress on December 19, 1985, Public Law 99-240.

During the congressional consent process, it became apparent that states without existing disposal facilities would not be able to license and have operational new disposal facilities by the January 1986 deadline envisioned in the 1980 Act. Congress accordingly passed the Low-Level Radioactive Waste Policy Amendments Act of 1985 (P.L. 99-240), which was signed into law by the President on January 15, 1986.

In general, the Act provides for continued access to the three disposal facilities until 1993. Access, however, is not unlimited. Specific allocations are provided for utility and non-utility waste. Each disposal facility is guaranteed a total amount of waste which it must accept. In return for continued access to its facilities, the three sited states are authorized to assess a per cubic foot surcharge on generators of waste. In addition, the unsited states and regions must meet specific milestones that are established in the Act. By July 1986, each unsited state must have either joined a compact, or enacted legislation that it will go-it-alone. By January 1, 1988, each unsited region or state must have selected a host state and have developed a siting plan. By 1990, each unsited region must have filed an application with the applicable licensing authority to develop a low-level radioactive waste facility, or each state must provide Governor's verification that other measures have been taken to assure that disposal capacity will be available. By 1991, all states or regions must have filed a license application. By 1993, all unsited states or regions must have a disposal facility operating. Failure to meet milestones can result in heavy increases in the surcharges assessed by the sited states.

By 1996, state or compact must take title and possession of low-level radioactive waste or be liable for damages suffered by generators. The federal legislation is mandatory and not discretionary.

III. MAJOR COMMISSION ACTIVITIES

To meet each state's responsibilities and mandate to establish a disposal facility within the state or region, on June 25, 1984, the Commission selected the firm of Dames and Moore to perform a Phase I exclusionary study. The purpose of the study was to examine each state according to the technical criteria enumerated in the Nuclear Regulatory Commission's licensing requirements (10 CFR 61). Land areas within each state that do not meet the criteria were excluded from further consideration as potential areas capable of hosting a low-level radioactive waste disposal facility per NRC criteria. The study serves as guidance for initial screening of the region and is not intended nor is it to be a final determination of areas that are capable of being sited. The study was completed in July, 1985, and identified areas in all five states that meet the NRC criteria, including 32 counties in Kansas. The unexcluded areas in Kansas are shown in Figure 1.

The Commission also contracted with Dames and Moore to complete a Phase II exclusionary study for additional guidance. This study uses a more detailed screening criteria than Phase I and is intended to show preferred siting areas within the candidate areas. A draft of the Phase II report has been completed and is being reviewed by the states.

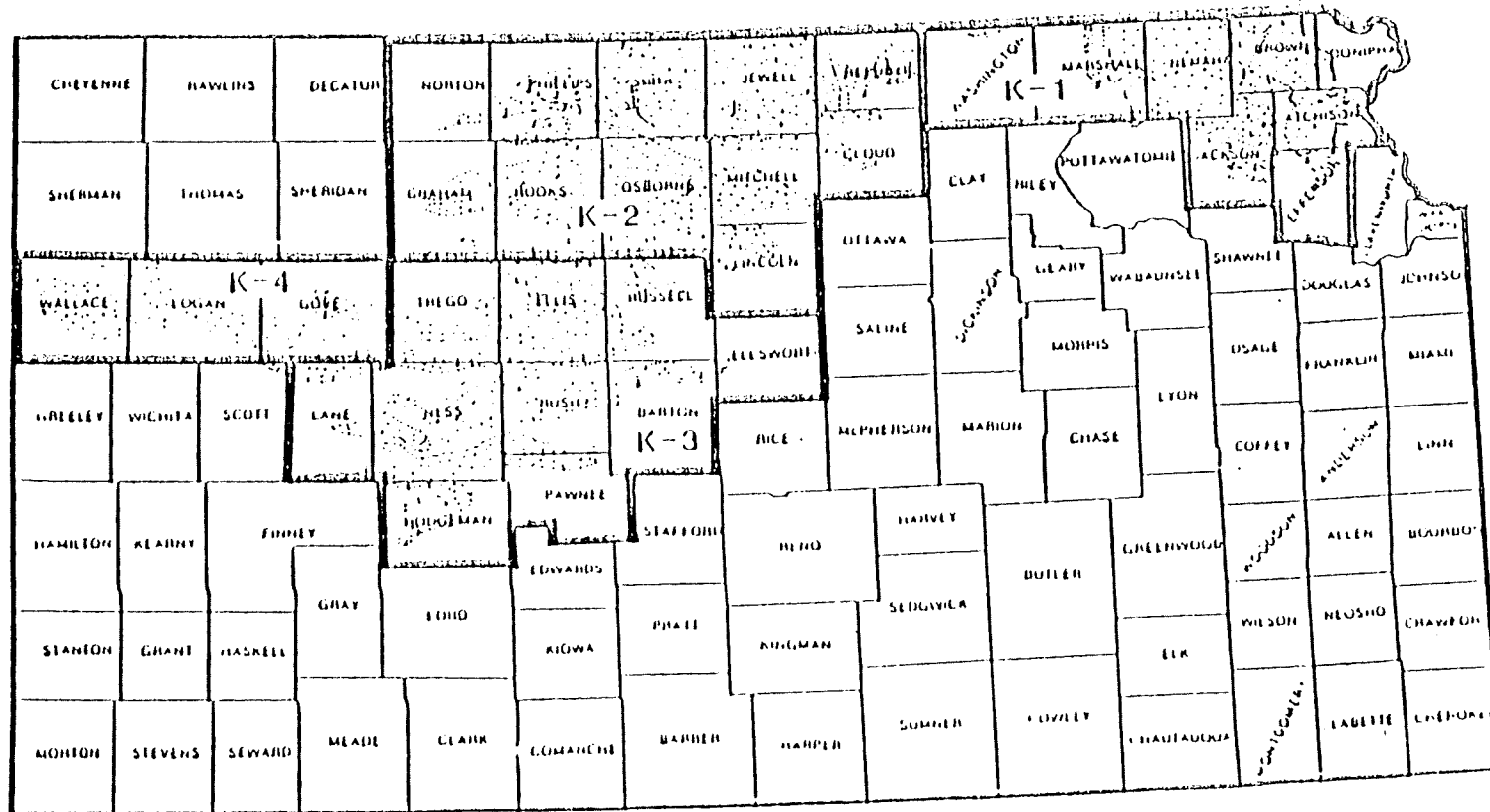
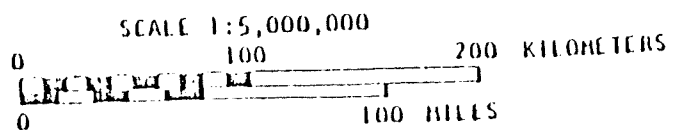


FIGURE 1

DAWES & MOON

STATE OF KANSAS CANDIDATE AREAS



- KEY:**
- AREA BOUNDARIES
 - K-1 AREA DESIGNATION NUMBER
 - OUTCROP AREA OF POTENTIAL GEOLOGIC HOST FORMATIONS

Preferred siting areas have been identified in 18 counties in Kansas, 10 counties in Nebraska, 2 counties in Arkansas, 1 county in Louisiana and no preferred siting areas were identified in Oklahoma. Maps suitable for inclusion in this report are not available as of this writing; preferred siting areas, however, are shown in the following counties: Atchison, Doniphan, Brown, Jackson, Nemaha and Marshall in the northeast corner of Kansas; Republic, Jewell, Mitchell, Lincoln, Smith, Osborne, Phillips, Rooks, and Graham counties in north central Kansas; and Gove, Logan and Wallace counties in west-central Kansas. Although the llrw volumes generated by the member states have been an important consideration in the selection of a host state in some other compact regions, it cannot be considered as a factor by the Central Interstate Compact Commission in selecting a host state for its regional facility pursuant to our compact law.

A developer is not absolutely precluded from proposing a site outside the Phase I and Phase II areas. However, if a site in an excluded area is suggested, the developer has the burden to come forward with evidence to justify this departure. This requirement may discourage a developer from proposing a site in the excluded area.

Dames and Moore, under contract with the Commission, is also developing a management plan which will be completed in February 1987. The management plan consists of a series of studies that evaluate waste source characteristics, alternate disposal technologies, public involvement plan, and procedures for states to volunteer to host a site. Currently, no state is expected to volunteer a site in our compact.

Lastly, the Commission has developed a draft Request for Proposal (RFP) for the development, construction, and operation of a low-level radioactive waste disposal facility. The RFP was formally adopted by the Commission at the January 13-15, 1987, meeting in New Orleans, and will be issued to potential applicants by February 1, 1987. The potential developers will be required to submit their formal proposals by April 1, 1987. Based on the response to the RFP, the Commission is expected to select a developer by June 1, 1987, using the following criteria: the technical design of the facility and the proposed technology to minimize public exposure and release, the proposed public participation plan, overall qualifications of the proposer (experience and record at other sites, financial stability, etc.); and the economic viability and reasonability of operational cost of the proposed facility. Furthermore, the RFP specifically states that "It is the policy of the Commission to consider only those proposals that meet the requirements of 10 CFR 61. The Commission shall weigh more favorably those proposals that contain enhancement design criteria to minimize exposure and release. Relative to shallow land burial facilities, the Commission will not consider traditional shallow land burial design utilized prior to 1979. Consideration will only be given to a disposal design which contains both a suitable natural barrier and an artificially constructed barrier between the waste and the natural barrier. It is the policy of the Commission that no waste as defined by Public Law 99-240 as a federal responsibility, shall be accepted at the regional waste management facility." Following the selection of the developer by the Commission (each state has one vote), the developer will conduct a Phase III study

and a comprehensive environmental impact analysis of the proposed site, and will be responsible for submitting a licensing application to the host state (or the NRC if a site is proposed in Oklahoma). Only the host state or the NRC, as appropriate, and not the Commission, will have authority to issue a license. Necessary safeguards to protect public health can be made a part of this licensing agreement.

IV. FACILITY OPERATION

This section provides an overview of the current envisioned waste volumes and operations of the regional llrw management facility. The facility must be in operation ready to accept llrw by January 1, 1993. The regional facility has been projected to annually receive and manage approximately 150,000 cubic feet of llrw from all generating sources in the Compact region. This volume could possibly be understated for the first few years of operation because a backlog of llrw will have accumulated due to a projected excess in volume as compared to available disposal allocations at Barnwell, Beatty and Hanford. Hence, the site will be required to dispose of any backlog and current llrw during the initial stages of operation. The facility is expected to have a total capacity of five million cubic feet and be in operation for thirty years. Kansas has traditionally generated a relatively small volume of low-level radioactive waste compared to other states in the compact region. A table of low-level waste volumes disposed at commercial facilities between 1979 and 1985 is provided in Table 1. Table 2 shows the 1982-85 average waste volume generation rates by category. These figures will

Table 1

Low-Level Waste Volumes Disposed at
Commercial Facilities
(ft³)

State	1979	1980	1981	1982	1983	1984	1985
AR	9355	8860	55245	29617	27887	33524	25408
KS	353	600	1659	494	0	1381	1700
LA	671	35	71	1059	565	496	10979
NE	28275	29511	26510	29193	35018	30833	37427
OK	741	2506	6213	3636	2259	4956	10536
Total	39395	41512	89698	63999	65729	71190	81050

Source: "State-by-State Assessment of Low-Level Radioactive Wastes Shipped to Commercial Disposal Sites" - 1983, 1984, EG&G Idaho, Inc., (DOE/LLW-39T, 50T). Stater totals are based on disposal site records.

1985 volumes based on records provided by U.S. Ecology and Chem-Nuclear Services.

Table 2
Waste Volume Generation Rates
(ft³)

	<u>1982-85 Average</u>	<u>With Broker and Government Adjustment</u>	<u>With New Reactors</u>	<u>By Source Category</u>	<u>Reference Volumes</u>
<u>Arkansas</u>	29109	29109	29109	29244(3)	29244
Power Reactors				0	0
Industrial				200	200
Institutional					
<u>Kansas</u>	893	1393	14073(2)	12680(4)	12680
Power Reactors				560	560
Industrial				981	981
Institutional					
<u>Louisiana</u>	630(1)	2446	37846	35400	35400
Power Reactors				927	927
Industrial				1519	1519
Institutional					
<u>Nebraska</u>	33118	33118	33118	33059	32342(5)
Power Reactors				517	517
Industrial				353	259
Institutional					
<u>Oklahoma</u>	5347	6490	6490	0	0(6)
Power Reactors				5179	5179
Industrial				811	811
Institutional					

Table 2 (Cont'd)

Reference Waste Generation Rates

Basis: State total volumes reported by disposal site operators for 1982-1985 (with broker adjustments for 1985) were averaged. Volumes from generators surveyed (See Appendix A) were subtracted from this total. The remaining volumes were allocated among the generator source categories in accordance with the breakdowns identified in the "1984 State-by-State Assessment."

- (1) Without waste of reactor origin for 1985.
- (2) Reactor volume derived by back-calculating from anticipated 1990 generation rate at a growth rate of 2%/yr. 1986 generation rate is estimated by the generator to be 9600ft³.
- (3) These volumes exceed the 1982-85 statewide average by about 300 ft³. Because of the availability of data from specific applications, it is more appropriate to use these values.
- (4) These volumes exceed the 1982-85 statewide average by about 600 ft³ and correspond to the 1984-85 averages statewide and by source category.
- (5) Power reactor volumes averaged for 1984-85 were subtracted from statewide totals. Remainder was allocated between industrial and institutional sources at a ratio of 2:1. This is consistent with data presented in the "State-by-State Assessment" and export authorization applications.
- (6) Volumes on the order of 100,000-150,000 ft³ are planned for 1986-87 due to an industrial facility decommissioning. These volumes will not impact a new Central Interstate regional disposal site and are not included in this analysis.

change somewhat due to the wastes generated by the newly operational Wolf Creek Generating Station in Kansas and The River Bend and Waterford 3 facilities in Louisiana. Over 90% of the low-level radioactive wastes generated within the compact region is from the region's seven (7) nuclear power plant units. Table 3 is a listing of the nuclear power reactor facilities within the compact region.

Although the State of Oklahoma does not have a nuclear power plant, they do have reactor fuels production facilities. The Cimarron Facility is in the process of being decommissioned and is projected to generate approximately 100,000 - 150,000 ft³ of llrw. The decommissioning of this facility and the disposal of the resulting llrw will be completed before our Compact's facility is operational and will therefore have no impact.

The Sequoyah Fuels Corporation Gore Facility routinely generates an estimated 5,000 - 10,000 ft³ of llrw per year. The operator of the facility, Kerr-McGee Nuclear Corporation, had applied for a license from the NRC to dispose of these wastes on-site but the application has since been withdrawn. This facility experienced a serious accident in January 1986 which will likely result in the generation of several thousand cubic feet of llrw. Although the Compact Commission will receive rebates from the disposal of these wastes under PL 99-240, the disposal of these wastes will likely be completed before our Compact's site is operational.

If Kansas is the host state, the facility will be licensed by KDHE. An application fee of \$300,000 will be required of the developer. Such a

Table 3
Power Reactor Facilities

<u>State</u>	<u>Facility/Location</u>	<u>Type</u>	<u>Size MWe</u>	<u>Initial Operation</u>	<u>Operator</u>
Arkansas	Arkansas Nuclear One 1	PWR	836	12/74	Arkansas Power & Light
	Russellville, Ark 2	PWR	858	3/80	
Kansas	Wolf Creek Burlington, KS	PWR	1150	6/85	Kansas Gas & Electric
Louisiana	River Bend St. Francisville, LA	BWR	940	11/85	Gulf States Utilities
	Waterford 3 Taft, LA	PWR	1104	3/85	Louisiana Power & Light
Nebraska	Cooper Brownville, NB	BWR	778	7/74	Nebraska Public Power District
	Fort Calhoun Fort Calhoun, NB	PWR	486	9/73	Omaha Public Power District
Oklahoma	None				

license must be approved by the Hazardous Waste Disposal Facility Approval Board (K.S.A. 48-16-20). Surety requirements and funding for long term care and decommissioning services are provided for by K.S.A. 48-16-23. The Kansas Corporation Commission is the designated rate review agency (K.S.A. 65-34a04). Any land upon which a llrw facility is located must be owned in fee simple by the State of Kansas (K.S.A. 48-16-21).

Under current licensing requirements for a llrw management facility, the licensed operator will be required to maintain responsibility for the site for a minimum of five years after closure of the facility. The facility itself will be operational for thirty years. The state will also be required to maintain institutional control of the site for a minimum of 100 years.

The wastes disposed of at the proposed regional facility are generated by nuclear reactors, industrial sources and medical and educational institutions. These wastes will be divided into classes A, B, and C as defined in 10 CFR, Part 61. Determination of the classification of radioactive waste involves two considerations. First, consideration must be given to the concentration of long-lived radionuclides (and their shorter-lived precursors) whose potential hazard will persist long after such precautions as institutional controls, improved waste form, and deeper disposal have ceased to be effective. These precautions delay the time when long-lived radionuclides could cause exposures. In addition, the magnitude of the potential dose is limited by the concentration and availability of the radionuclide at the time of exposure. Second,

consideration must be given to the concentration of shorter-lived radionuclides for which requirements on institutional controls, waste form, and disposal methods are effective.

Classes of waste

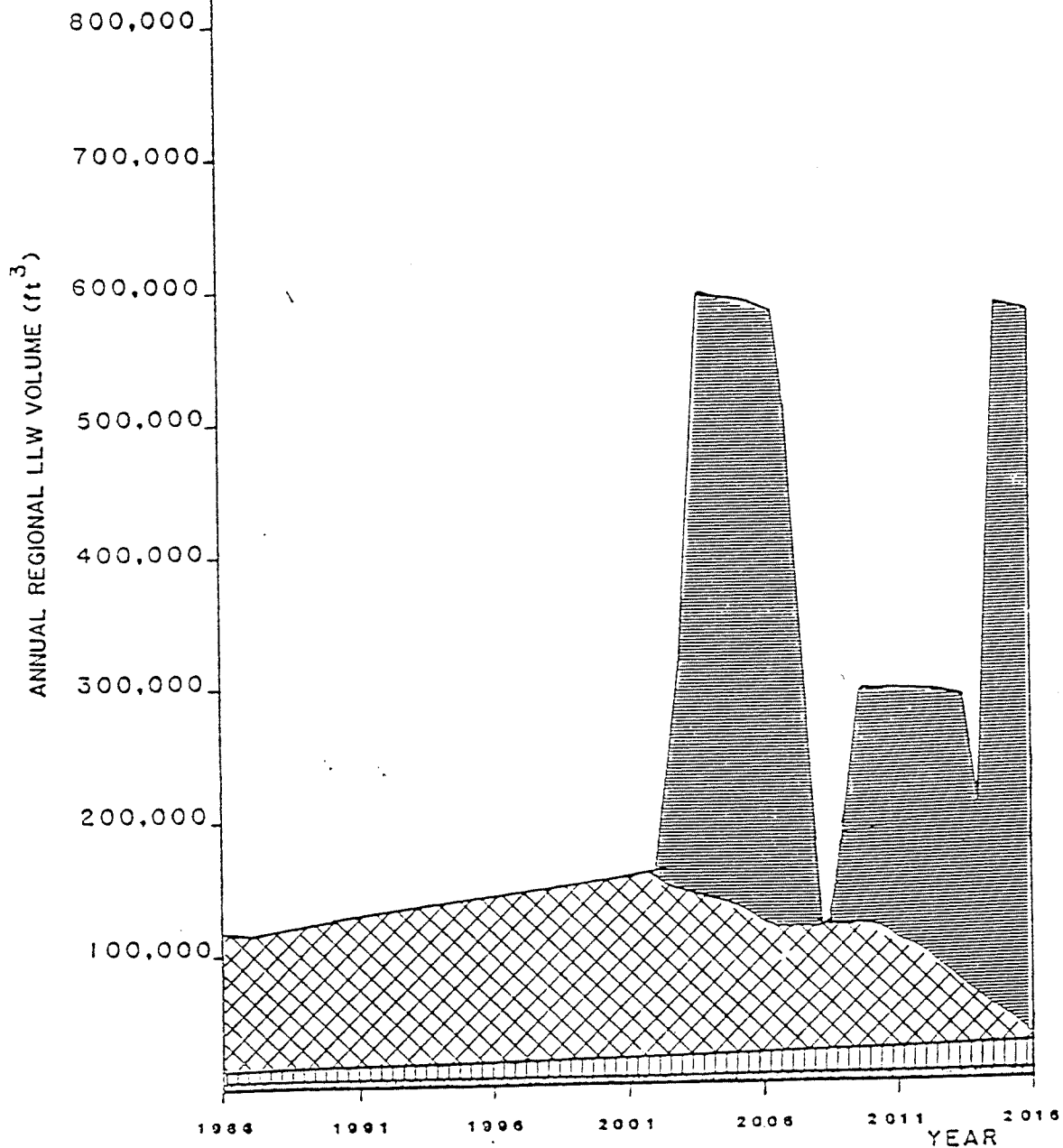
- (1) Class A waste is waste that is usually segregated from other waste classes at the disposal site. The physical form and characteristics of Class A waste must meet the minimum requirements set forth in Section 61.56(a). If Class A waste also meets the stability requirements set forth in Section 61.56(b), it is not necessary to segregate the waste for disposal.
- (2) Class B waste is waste that must meet more rigorous requirements on waste form to ensure stability after disposal. The physical form and characteristics of Class B waste must meet both the minimum and stability requirements set forth in Section 61.56.
- (3) Class C waste is waste that not only must meet more rigorous requirements on waste form to ensure stability but also requires additional measures at the disposal facility to protect against inadvertent intrusion. The physical form and characteristics of Class C waste must meet both the minimum and stability requirements set forth in Section 61.56.
- (4) Waste that is not generally acceptable for near-surface disposal is waste for which waste form and disposal methods must be different,

and in general more stringent, than those specified for Class C waste. In the absence of specific requirements in this part, proposals for disposal of this waste may be submitted to the Nuclear Regulatory Commission for approval, pursuant to Section 61.58 of this part.





Relative to the issue of decommissioning of power reactors in the compact states between 2003 and 2016, the draft Dames and Moore Report of December 6, 1986, "Evaluation of Regional Waste Characteristics," projects that llrw from decommissioning activities will be disposed of over a four-year period for each of the region's seven reactor units at the region's facility. The study indicates that a 1175 MW reactor (Wolf Creek is rated at 1150 MW) will result in 630,000 cubic feet of llrw from decommissioning activities. This roughly approximates the llrw amounts generated during total facility operation (assuming 30-year reactor useful life). Figure 2 is a graphic planning scenario utilized by Dames and Moore in the above-referenced study.

If the initial regional facility is projected to have a useful operation life of thirty years and five million cubic feet storage capacity (these operating criteria are what developer applicants are to assume according to the R.F.P.), the facility may have to expect to dispose of over four million cubic feet of llrw from reactor decommissioning activities. However, this is still an area of uncertainty. It has not been determined yet if the regional llrw management facility will be required to handle these decommissioning wastes. Based on current projections, all of the region's currently operating reactor facilities will be scheduled for decommissioning during the next thirty years.

ANNUAL REGIONAL LLW GENERATION RATE-
PLANNING SCENARIO



LLW GENERATION SOURCE:

-  DECOMMISSIONING REACTORS
-  OPERATING REACTORS
-  INDUSTRIAL
-  INSTITUTIONAL

NOTE: ASSUMPTIONS DISCUSSED IN SECTION 3.0

DAMES & MOORE

FIGURE 2

This planning scenario assumes that power reactors will be dismantled soon after final shutdown as is the current plan with Wolf Creek Generating Station (W.C.G.S.). The procedures that will be utilized in decommissioning power reactors are still in formative stages because the industry has little actual experience with such activities. The larger nuclear reactors (like W.C.G.S.) could require a "cool-down" period of several years before extensive decommissioning activities can be initiated. Nevertheless, the regional llrw management facility may have to be prepared to handle such wastes.

V. OPTIONS AND ISSUES RELATIVE TO LLRW DISPOSAL IN KANSAS AND THE CENTRAL INTERSTATE COMPACT.

A. Maintain Commitment To Central Interstate Compact and Regional Disposal Concept.

If Kansas should be selected as the host state, llrw from the other member states will be transported to and disposed of at a site in Kansas. If a member state were selected to host the first regional management facility, current projections will require the selection of a site for a second facility in approximately 30 years.

In order to gain public acceptance of a regional llrw management facility, a developer must overcome the local communities fears that such a facility might result in contamination of the environment, adverse health risks, reduced property values and an obstacle to

future economic development. Depending upon the technology selected, the facility could employ 20-40 individuals with economic benefit to the community. The actual economic incentives to be considered will not be known until the proposals are received in response to the RFP to be issued on February 1, 1987. The developer should also plan on giving some oversight facility control to the local community.

A regional llrw management facility will have a better economy of scale than a single state operation. However, even with the waste volumes projected in the draft "Evaluation of Regional Waste Streams" prepared by Dames and Moore, there is some question about the economic viability of a llrw management facility for the volume of wastes generated in the Compact region. These projected volumes are being further reduced as the generators implement volume reduction and waste minimization programs.

B. Work Within the Framework of the C.I.L.L.R.W.C. To Develop At Or Near Reactor Site Disposal of LLRW

There have been suggestions that the Compact states pool their resources and develop llrw management facilities at or near the nuclear power plants within the region. There are nuclear power plants located in each of the member states except for Oklahoma. However, Oklahoma does have a nuclear fuel fabrication facility which produces llrw and will eventually require decommissioning. In

order to take this approach, the Compact Commission would be required to consider a change in the present policy of a regional disposal facility.

Using this concept, a reduction in planning and operational costs could possibly be achieved along with several other benefits. First, transportation risks and costs are minimized or eliminated. Second, at or near reactor storage/disposal allows the operator of the facility to take advantage of the close proximity of reactor operational personnel and enter into cooperative arrangements to safely and efficiently manage llrw. Third, public acceptance of at or near reactor storage/disposal may be more likely compared to a regional facility. Nuclear power reactors already in operation have effectively committed the natural resources affected by such. Minimizing additional natural resource commitments should be a consideration of the Compact Commission.

This approach of locating llrw management facilities at or near power plants within the framework of the Compact Commission, however, would be a dramatic departure from the policies and mandates of the federal Low-Level Nuclear Waste Policy Act of 1980 and the amendments of 1985. The federal directives are clear that states must develop regional or statewide llrw disposal facilities. All of the compacts, including our own, have acted on that premise and have focused their entire efforts on developing regional

facilities. It would be virtually impossible for Kansas to convince other commissioners in the compact to even consider this approach at this late day, given the strict deadlines that the compact must meet to avoid the penalties under the federal act. Additionally, studies have not been performed to determine the feasibility and suitability of such facilities at or near nuclear power plants. The areas in which all of the regions nuclear power plants are located were eliminated from siting consideration in the Dames and Moore Phase I Site Exclusionary Study. The primary reason for this is that nuclear power plants are located near relatively large bodies of water (flood plains) in order to provide the required cooling capacity, and one of the important considerations in siting a llrw management facility is avoiding the potential for intrusion by surface water.

An additional factor militating against such an approach is that any such facility within the exclusion area of a nuclear power plant would be within the exclusive regulatory jurisdiction of the NRC. NRC has indicated that they will permit their licensees (nuclear plant operators) to only store their llrw on-site temporarily and for a maximum period of 5 years. NRC's policy regarding commercial llrw storage at nuclear power plants is contained in their August 1, 1985 letter to all licensees. A copy of this letter is attached as Attachment 1. Also, recall that Oklahoma has no nuclear power plant.

C. Withdraw From C.I.L.L.R.W.C. and Pursue Single-State Disposal Option.

As stated earlier, according to the Dames and Moore report Kansas has more potential sites than the other four Compact sites. While that fact does not by itself guarantee that Kansas will be selected as the host state by a potential developer, chances are quite high that Kansas may in fact be selected.

While the decision to withdraw from the Compact should not be taken lightly, our Compact legislation envisioned the possibility of a state wishing to withdraw and does provide for withdrawal from the Compact. Article VII, Section d. of the Compact legislation states as follows:

" d. Any party state may withdraw from this compact by enacting a statute repealing the same. Unless permitted earlier by unanimous approval of the Commission, such withdrawal shall take effect five years after the Governor of the withdrawing state has given notice in writing of such withdrawal to each Governor of the party states. No withdrawal shall affect any liability already incurred by or chargeable to a party state prior to the time of such withdrawal."

VI. ANALYSIS

The present circumstances find Kansas at an important crossroad. It is important to explore the various alternatives currently available to this state. It will become increasingly more difficult and prohibitive to make additional major changes in the future once certain paths have been taken. The options below are listed in no specific order of preference.

Withdrawal From the Compact

Given that the other states have minimal to no preferred siting areas and Kansas and Nebraska have so many, Kansas and Nebraska appear to be the front-runners for being selected by a developer to locate a low-level radioactive waste disposal facility. Kansas' chances of being selected are perhaps higher even than Nebraska's because of the relatively shorter travel distance to Kansas for the other compact states. Kansas had a one-in-five chance of being selected when it ratified the compact. The chances of Kansas being selected now appear significantly higher.

If withdrawal from the Compact Commission (CILLRWCC) is the option selected, this provision should be invoked as soon as practicable, during this legislative session and prior to the selection of the developer, in order to prevent Kansas from incurring any further liabilities that could be chargeable to it. Currently, Kansas has apparently incurred only an annual \$25,000 commitment to assist with Compact Commission budget. Withdrawal in this calendar year would put the other member states on notice that they should not rely on Kansas for a disposal site and that they need not expect that Kansas will utilize the Compact's regional disposal facility. Withdrawal now, prior to other states' reliance on Kansas for either a disposal site or further monetary contributions would support Kansas' argument for immediate withdrawal instead of the five-year delay as stated in Article VII, Section d, and thus persuade the Compact Commission to allow such.

At the time this report was written, legislation had reportedly been introduced in both Nebraska and Arkansas to withdraw those states from the Central Interstate Compact. If one or more states should withdraw from the Compact it seems plausible that the Compact would be effectively dissolved and there would be no penalties for withdrawing.

(A) Penalties for Withdrawal

(1) Article VII, Section e., of the Compact legislation provides as follows:

" e. Any party state which fails to comply with the terms of this compact or fulfill its obligations hereunder may, after notice and hearing, have its privileges suspended or its membership in the compact revoked by the Commission. Revocation shall take effect one year from the date such party state receives written notice from the Commission of its action. The Commission may require such party state to pay to the Commission, for a period not to exceed five years from the date of notice of revocation, an amount determined by the Commission based on the anticipated fees which the generators of such party state would have contributed in accordance with section d. of Article III, in the event of insufficient revenues. The Commission shall use such funds to ensure the continued availability of safe and economical waste management facilities for all remaining party states. Such state shall also pay an amount equal to that which such party state would have contributed to the annual budget of the Commission if such party state would have remained a member of the compact. All legal rights established under this compact of any party state which has its membership revoked shall cease upon the effective date of revocation; however, any legal obligations of such party state arising prior to the effective date of revocation shall not cease until they have been fulfilled. Written notice of

revocation of any state's membership in the compact shall be transmitted immediately following the vote of the Commission, by the chairman, to the Governor of the affected party state, all other Governors of the party states and the Congress of the United States." (emphasis supplied)

Arguably, the sanctions are based upon revocation of membership by the Compact Commission, not voluntary withdrawal of a State's membership. Based on this reasoning, the only current financial commitment Kansas has made is, arguably, \$25,000 per year for Compact activities. If this penalty were assessed for 5 years the total penalty would be \$125,000. However, the Commission may take the position that the penalty provisions of Article VII, Section e are also applicable upon voluntary withdrawal by a state. In that case, the Commission may propose additional sanctions, as discussed below. It should be noted, however, that the statutes on this point are not clear, and Kansas can persuasively argue either with the Commission or in a Court proceeding, should the Commission sue Kansas, that Section e sanctions ought not to apply to voluntary withdrawal, particularly if Kansas were to withdraw during this legislative session and can demonstrate that no detrimental reliance by other states has occurred.

As indicated in Article III, these penalties would be determined and assessed by the Compact Commission and are impossible to accurately project at this time. However, as a hypothetical example, assume that the host state's costs over

and above the actual disposal costs were estimated to be \$500,000/year and the total annual volume disposed at the facility were estimated to be 100,000 ft³. The total additional disposal fee permitted under Section d. of Article III would be \$5/ft³. If Kansas were estimated to generate an average of 12,000 ft³ of llrw per year, the maximum penalty which could be assessed under Section e. sanctions would be \$60,000 for each year or \$300,000 for five years. If the waste volume projections in Dames and Moores' Evaluation of Regional Waste Characteristics Report were used, this estimation could be different.

(2) Potential Surcharges and Loss of Access to Current Disposal Sites

Section 5 of the Act (PL 99-240) is entitled, "Limited Availability of Certain Regional Disposal Facilities During Transition and Licensing Periods."

Subsection (e) REQUIREMENTS FOR ACCESS TO REGIONAL FACILITIES. Sets out the following time frames:

(1) REQUIREMENTS FOR NON-SITED COMPACT REGIONS AND NON-MEMBER STATES. Each non-sited compact region, or State that is not a member of a compact region that does not have an operating disposal facility, shall comply with the following requirements:

(A) By July 1, 1986, each such nonmember State shall ratify compact legislation or, by the enactment of legislation or the certification of the Governor, indicate its intent to develop a site for the location of a low-level radioactive waste disposal facility within such State

(B) By January 1, 1988.

(i) each non-sited compact region shall identify the State in which its low-level radioactive waste disposal facility is to be located, or shall have selected the developer for such facility and the site to be developed, and each compact region or the State in which its low-level radioactive waste disposal facility is to be located shall develop a siting plan for such facility providing detailed procedures and a schedule for establishing a facility location and preparing a facility license application and shall delegate authority to implement such plan;

(ii) each non-member State shall develop a siting plan providing detailed procedures and a schedule for establishing a facility location and preparing a facility license application for a low-level radioactive waste disposal facility and shall delegate authority to implement such plan; and . . ."

Arguably, so long as Kansas satisfies either (i) or (ii), it can avoid the penalty provision which states:

Section 5(e)(2)(B)(i), (ii)

"(B) By JANUARY 1, 1988. If any non-sited compact region or non-member State fails to comply with paragraph (1)(B) -

(i) any generator of low-level radioactive waste within such region or non-member State shall -

(I) for the period beginning January 1, 1988, and ending June 30, 1988, be charged 2 times the surcharge otherwise applicable under subsection (d); and

(II) for the period beginning July 1, 1988, and ending December 31, 1988, be charged 4 times the surcharge otherwise applicable under subsection (d); and

(ii) on or after January 1, 1989, any low-level radioactive waste generated within such region or nonmember State may be denied access to the regional disposal facilities referred to in paragraphs (1) through (3) of subsection (b).

If the decision is made 1) to withdraw from the Compact; 2) enact a comprehensive legislation program to dispose of llrw generated in Kansas; and 3) do all that is necessary to comply with Section 5(e)(1)(B), it is arguable that no penalties may be imposed.

B. Economic Feasibility of Single State vs. Regional Disposal Options

In a U.S. Department of Energy Study, An Analysis of Low-Level Waste Disposal Facility and Transportation Costs, April, 1983, average disposal costs were given as \$21 per cubic foot. The cost of storage in an above-ground monitored facility, will likely be greater than \$21 per cubic foot. Current disposal costs being paid by llrw generators in Kansas are averaging approximately \$38/ft³. The disposal costs which have been estimated by Dames and Moore in their report on "Assessment of Alternative Treatment and Disposal Technologies" will likely be in excess of \$130/ft³ for the enhanced technologies which the Compact Commission favors and at the projected volume of 150,000 ft³/year. Recent reports from the llrw generators in the Compact region indicate that significant volume reductions have and continue to occur so that the annual volume generated may actually be closer to only 80,000 ft³/year. This will likely result in a higher actual cost for disposal at the Compacts

regional facility and make it less attractive for potential developers to submit proposals to develop such a facility. Arguably, a disposal site which manages less than 100,000 ft³/year is not cost effective. This opinion has been voiced by many potential developers.

If Kansas were to withdraw from the Compact it would be required to develop and operate its own llrw management facility. At the time this report was written, no cost estimates had been obtained for operating facilities with waste volumes less than 100,000 ft³/year. The estimated cost for developing the Compact region's llrw management facility is approximately \$25 million. Many of the costs for developing such a facility will remain the same regardless of the site capacity. Clearly, because of the economies of scale and the high fixed costs, the disposal costs to Kansas generators would be higher if Kansas opts to have its own facility as opposed to having access to a regional facility.

It should also be recognized that, if the withdrawal option is selected, funds will have to be provided to the Department of Health and Environment or to an appropriate authority so that the milestones established in the Act can be met by the State of Kansas. The most immediate federal milestone is January 1, 1988, at which time the host state must be identified and a siting plan must be submitted. Time has been insufficient at this writing to estimate the cost of preparing a siting plan; however, the estimated range is

\$0.5-1.0 million dollars. In addition, between now and 1993, all costs related to the development of the facility will have to be generated. Again, the precise cost is not known but could be around \$10-15 million dollars. This funding will either have to be provided from the State General Fund or a statutory mechanism will have to be created to raise these revenues from the generators.

(C) Does the Single-State Option Allow for the State of Kansas to Preclude Disposal of LLRW from Other States?

This is perhaps one of the most important considerations related to withdrawal from the Compact. Unless the state can preclude "importation" of llrw for disposal from other states, the single-state disposal option would be self-defeating. Considerable attention has been drawn to this issue. Presently, Texas is the only state which has explicitly chosen the single-state option. (However, New York and Massachusetts are considering such. Wisconsin has indicated that if it is chosen as a host state for a regional disposal facility, it will withdraw from its compact and go it alone.) Texas has enacted a comprehensive llrw disposal statute which explicitly limits use of disposal facilities in Texas to waste generated in Texas.

In order to assure that the single-state option will accomplish the purpose of excluding out-of-state llrw, every effort should be made to introduce legislation in the U.S. Congress which explicitly recognizes this option. North Power v. Marion, 447 F.2d 1143

(affirmed by S. Ct.) in 1972 in construing the Atomic Energy Act held that the federal government has completely pre-empted the states in the health and safety regulation of waste from nuclear reactors. At present, the Act does not directly address the issue. Opponents argue that this was considered by Congress. It was not explicitly pursued because Congress wished to encourage the formation of regional compacts to minimize the number of llrw management facilities.

The commerce clause of the U.S. Constitution prohibits states from enacting statutes which restrict interstate commerce. One of the few exceptions to the clause is the "market participant" concept i.e. the state acts the same as a private industry in a specific market thus, the Kansas Act which must be carefully drafted to allow use of the "market participant" exception to the Commerce Clause of the U.S. Constitution. The market participant exception has been recently narrowed so that those state actions having a "substantial regulatory effect outside the particular market" do not fall within the exception. (South-Central Timber Dev. v. Wunlike 467 0572· 104 S. Ct. 2237 (1984). In order to utilize this exception, the State itself will have to construct and operate its own facility. This obviously precludes a privately owned facility.

The State can not place an outright ban upon the importation of llrw into its jurisdiction, but may restrict access to the state's disposal facility to that waste generated within the state. Texas

has used the approach, not of outright prohibition of privately operated disposal facilities, but requiring that each facility be licensed by the State (Tex. Stat. Ann. Art. 4590 of Section 6). The statute then provides that no licensee of the agency may accept low-level waste generated in another state unless the state or region has entered into a compact with Texas or has an operating disposal site that will accept low-level waste generated in Texas. These are complex legal questions that need further investigations with the Attorney General's Office.

Staying in the Compact

By maintaining the current commitment to the Compact, Kansas may be selected as the state to host the initial regional llrw facility. There have been many concerns and doubts expressed by the public and environmental groups about this. Some of these have been reflected above. One can point to the experience that North Carolina (Southeast Compact) has just undergone for comparison. North Carolina had been selected as the host state in its Compact in 1986. There was an immediate clamor from that state to withdraw from the Compact. Eventually, after much deliberation, North Carolina decided to remain in the Southeast Compact. It did agree to become the host state. However, it did so after imposing additional conditions on the remaining states in its Compact. This was to assure itself that the remaining states would not withdraw when their turn came in the future. The penalties were quite severe and the other Compact states agreed to them. Such a mechanism could be employed here by Kansas. A regional facility would be

more economical to develop and operate than a single state facility. Furthermore, by staying in the Compact Kansas is living up to the Congressional intent of P.L. 99-240, which encouraged Compact formation.

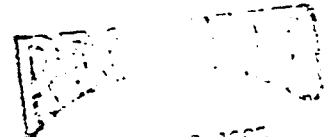
SIGNIFICANT DATES

- February 1, 1987 - Commission issued "Request for Proposals" to potential developers.
- April 1, 1987 - Commission receives responses to RFP.
- June 5, 1987 - Commission meets to select a potential developer.
- January 1, 1988 - Host state must be identified and a siting plan developed.
- January 1, 1990 - A complete license application must be filed; or the Governor must file written certification to NRC that the state will be capable of providing for the storage, disposal, or management of llrw generated within the state after December 31, 1992.
- January 1, 1992 - A complete license application must be filed for license to operate a llrw disposal facility within each non-sited compact region or within each non-member state.
- January 1, 1993 - Each state or compact region must be able to provide for the disposal of such waste generated within such state or region.



ATTACHMENT 1

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555



AUG 12 1985

BUREAU OF ENVIRONMENTAL HEALTH AND RADIATION PROTECTION

August 1, 1985

TO ALL LICENSEES

SUBJECT: COMMERCIAL STORAGE AT POWER REACTOR SITES OF LOW-LEVEL RADIOACTIVE WASTE NOT GENERATED BY THE UTILITY (Generic Letter 85-14)

Gentlemen:

The Low-Level Radioactive Waste Policy Act of 1980 (P. L. 96-573) assigned to the states the responsibility to provide for disposal of commercial low-level radioactive waste (LLW) generated within each state. The Act envisioned that all states would be capable of providing for disposal of commercial LLW generated within their borders by 1986. Based on the current status of state efforts and the substantial time required to establish new disposal facilities, no new sites will be available for at least several years. Due to the uncertainty of this situation and statements made by some officials of states within which currently operating disposal sites are located, it appears possible that access to the existing sites may be restricted.

While some licensees have taken steps to temporarily store LLW generated at their sites to alleviate any impact that limiting of access to disposal capacity may have on licensed operations, provisions for storing LLW should be used only for interim contingency purposes. It is the policy of the NRC that licensees should continue to ship waste for disposal at existing sites to the maximum extent practicable.

In anticipation of possible curtailment of access to existing disposal facilities, interest is being expressed in some states in commercial storage of LLW generated within the states. While the NRC recognizes that storage may appear desirable in states which have not resolved their low-level waste disposal problems, commercial storage facilities, however, should not become de facto disposal sites. NRC will require for commercial storage under its jurisdiction that, in addition to safe siting and operation, commitments and assurances be made for eventual disposition of all waste stored at commercial storage locations. This includes provisions for repackaging (if necessary), transportation and disposal of the waste, as well as decommissioning of the facilities.

Some of the concepts for commercial storage involve using nuclear power reactor sites as commercial storage locations for LLW not generated by the utility licensee. As a matter of policy, the NRC is opposed to any activity at a nuclear reactor site which is not generally supportive of activities authorized by the operating license or construction permit and which may divert the attention of licensee management from its primary task of safe operation or construction of the power reactor. Accordingly, interim storage of LLW within the exclusion area of a reactor site, as defined in 10 CFR 100.3(a), will be subject to NRC jurisdiction regardless of whether or not the reactor is located in an Agreement State, pursuant to the regulatory policy expressed in 10 CFR 150.15(a)(1). Within Agreement States, for locations outside the exclusion areas, the licensing authority is in the Agreement State.

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In order for NRC to consider any proposal for commercial storage at a reactor site, including commercial storage in existing low-level waste storage facilities, the NRC must be convinced that no significant environmental impact will result and that the commercial storage activities will be consistent with and not compromise safe operation of the licensee's activities, including diverting reactor management attention from the continued safety of reactor operations. A Part 30 license is required for the low-level waste storage and a Part 50 license amendment may also be required. The application must include:

By the utility

- ° A determination by the utility licensee that the proposed low-level waste commercial storage activities do not involve a safety or environmental question, and that safe operation of the reactor will not be affected. In making this determination, the licensee shall consider:
 - Direct impacts of the commercial storage operation on reactor operations during normal and accident conditions;
 - Diversion of utility management and personnel attention from safe reactor operation;
 - Combined effects of onsite and offsite dose during normal and accident conditions;
 - Influence on effectiveness of reactor emergency plans;
 - Influence on effectiveness of reactor security plans;
 - Financial liability provisions, including impact on indemnity coverage; and
 - Environmental impact of the storage facility, including potential interaction with the generating station.

By the applicant (the utility or another person)

- ° Information relating to the safety of the commercial storage operation;
- ° Information relating to the environmental impact of the storage operation in sufficient detail to allow staff to establish the need for preparation of an Environmental Impact Statement;
- ° Financial assurance to provide for the commercial storage operation and decommissioning including any necessary repackaging, transportation and disposal of the waste; and
- ° Written agreement from the jurisdiction responsible for ultimate disposal, the State, that provisions are sufficient to assure ultimate disposal of the stored waste.

The Office of Nuclear Reactor Regulation (NRR) will conduct an environmental review and review the application to determine whether the low-level waste commercial storage activities on a reactor site impact the safe operation of the reactor. Following NRR review, the licensing authority for commercial storage on a reactor site under NRC jurisdiction (all locations in non-Agreement States and locations within reactor exclusion areas in Agreement States) is the Office of Nuclear Material Safety and Safeguards. The NRC will assess

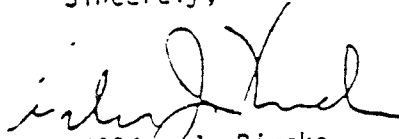
environmental impact and will issue an Environmental Impact Statement, if appropriate, in accordance with provisions of 10 CFR 51.20, 51.21 and 51.25. As part of the procedures, the NRC will provide notice in the FEDERAL REGISTER of receipt and availability of any application received for commercial storage activities. The public notice will also indicate the staff's intent regarding preparation of an environmental assessment and its circulation for public review and comment. An Environmental Impact Statement will most likely be needed based on the environmental assessment.

Because the NRC has not yet received or reviewed an application for a centralized commercial low-level waste storage facility intended to store large amounts of LLW for five or more years, the NRC may consider applying the criteria described above to such commercial storage facilities whether they be on a reactor site or not.

Interim storage of utility licensee-generated LLW will continue to be considered according to the provisions stated in Generic Letter 81-38, dated November 10, 1981.

For additional information, please contact Frank Miraglia, Office of Nuclear Reactor Regulation, U. S. Nuclear Regulatory Commission, Washington, D.C. 20555 [Telephone: (301) 492-7980] or Richard Cunningham, Office of Nuclear Material Safety and Safeguards, U. S. Nuclear Regulatory Commission, Washington, D.C. 20555 [Telephone: (301) 427-4485].

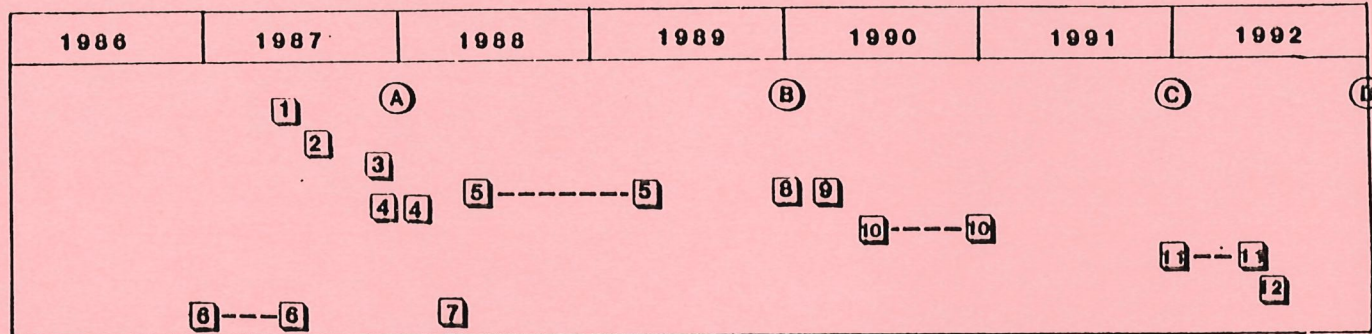
Sincerely,



William J. Dircks
Executive Director
for Operations

OPTION 1: MAINTAIN COMMITMENT TO COMPACT & REGIONAL FACILITY CONCEPT

MAJOR MILESTONES LEADING TO ESTABLISHING CENTRAL INTERSTATE LLRW DISPOSAL FACILITY



○ P.L. 99-240 MILESTONES

□ CENTRAL INTERSTATE ACTIONS

- A -1/1/88- COMPACT IDENTIFY HOST STATE (OR DEVELOPER AND SITE). COMPACT OR HOST STATE DEVELOP SITING PLAN INCLUDING SITING AND LICENSING AUTHORITY, PROCEDURES AND SCHEDULE
- B -1/1/90- COMPLETE APPLICATION FILED OR CERTIFICATION MADE TO NRC THAT HOST STATE WILL MANAGE WASTE AFTER 12/31/92.
- C -1/1/92- COMPLETE APPLICATION FILED.
- D -1/1/93- HOST STATE RESPONSIBLE TO TAKE TITLE TO AND POSSESSION OF WASTE OR REPAY PORTION OF SURCHARGES TO GENERATORS UNTIL THIS OCCURS.
- 1 COMMISSION SELECTS DEVELOPER (6/5/87)
- 2 COMMISSION AND DEVELOPER AGREE TO PERFORMANCE SCHEDULE (7/29/87)
- 3 DEVELOPER IDENTIFIES HOST STATE AND SUBMITS SITING PLAN THAT CONFORMS TO 1/1/88 MILESTONE REQUIREMENTS (12/15/87)
- 4 PHASE III SITING. DEVELOPER IDENTIFIES PREFERRED SITES (12/87 - 1/29/87)
- 5 SITE CHARACTERIZATION AND SELECTION OF PREFERRED SITE (4/89)
- 6 STATES DEVELOP PROCEDURES AND TECHNICAL CAPABILITY FOR PROCESSING APPLICATIONS (1/87 TARGET)
- 7 SURCHARGE REBATE RECEIVED BY COMMISSION (2/88)
- 8 LICENSE APPLICATION SUBMITTED (12/89)
- 9 SURCHARGE REBATE RECEIVED BY COMMISSION (2/90)
- 10 STATE PREPARES EA, EIA, OR EIS
- 11 PUBLIC REVIEW PERIOD (EARLY TO MID 92)
- 12 LICENSE ISSUED (MID 92)

OPTION 2: GETTING OUT OF COMPACT

Milestones & Activities Leading to LLRW Facility in Kansas

- March 15, 1987 - Enact legislation to withdraw from Compact (S.B. 114 & H.R. 2175).
- Governor certifies to appropriate entities that Kansas intends to develop a facility to manage its own llrw.
- April 1, 1987 - Enact legislation to create a llrw authority and appropriate money or staff positions and administrative expenditures.
- Appropriate \$1.5 million to llrw authority to begin Phase III siting studies.
- Appropriate estimated funding for Compact withdrawal sanctions (\$25,00-\$75,000 est. or possibly more).
- Initiation of siting plan.
- August 31, 1987 - Submission of siting plan by llrw authority, approval of schedule for establishing facility location and license application schedule.
- September 15, 1988 - Commence Phase III siting studies to identify preferred sites and adopt siting plan.
- *January 1, 1988 - Obtain delegation of authority to implement facility siting plan. Notification of siting plan adoption and authority sent to appropriate entities.
- February 1, 1988 - Preferred sites identified. Surcharge rebates due to be received by state from DOE escrow (\$25,000 est.).
- April 1, 1988 - Approve KDHE budget request for activities relative to licensing state llrw (\$150,000 est.)
- October 1, 1988 - Selection of preferred site. Site characterization studies commence.
- April 1, 1989 - Site characterization report submitted.
- November 1, 1989 - License application to operate a llrw facility submitted.
- Application made to KDHE and subsequently to the Hazardous Waste Siting Board.
- *January 1, 1990 - Governor provides a written certification to NRC that Kansas is capable of and will be providing for the storage, disposal, or management of llrw generated in Kansas requiring disposal after December 31, 1992; or that a complete application to operate a llrw disposal facility has been filed.
- State prepares environmental assessment. Public review period commences.

- February 1, 1990 - Surcharge rebate received by Kansas from DOE escrow account (\$100,000 est.).
- October 1, 1990 - State acquires title to llrw facility site.
- April 1, 1991 - License to operate llrw facility issued. Approval from Hazardous Waste Siting Board obtained.
- State appropriates money for site construction (\$15-20 million); or, state creates statutory mechanism to raise money from generators.
- State appropriates money or creates statutory mechanism for collection for initial year's operation (\$1.5 million).
- September 1, 1991 - Construction of facility commences.
- September 1, 1992 - Completion of llrw facility.
- *January 1, 1993 - Operation of llrw facility in Kansas commences.

*Milestones (deadlines) mandated by federal Low-Level Radioactive Waste Policy Act Amendments of 1985.

llrw = low level radioactive waste

OPTION 3: DEVELOP LLRW MANAGEMENT FACILITY
AT OR NEAR NUCLEAR POWER PLANTS

Issues Relative to Siting a LLRW Facility
at or Near Nuclear Power Plants

Within Compact Framework - Each State Develop Its Own LLRW Management Facility At Or Near a Nuclear Power Plant.	Withdraw From Compact - Develop a LLRW Management Facility For Kansas At Or Near Wolf Creek Generating Station.
1. Over 90% of llrw generated in Compact Region would be at or near the facility.	1. Same for State of Kansas.
2. Transportation of llrw would be minimized.	2. Same.
3. This disposal concept could enjoy better public acceptance.	3. Same.
4. Such a facility being operated by the utility could utilize staff already trained and experienced at managing radioactive waste.	4. Same.
5. Such an approach is a drastic departure from the policies and mandates of PL 99-240.	5. Same except that it may be less of a departure for a non-compact state than for an entire compact region.
6. The Compact has focused it's entire effort toward developing a regional llrw management facility.	6. Same - all effort to-date in Kansas has been toward developing a regional facility.
7. At this late date it would be virtually impossible for Kansas to convince other Commissioners to even consider such an approach.	7. If Kansas were to withdraw from the Compact, this issue must be resolved between the state of Kansas and the Wolf Creek Nuclear Operations Corporation (WCNOC).
8. Studies have not been performed to determine the feasibility, suitability and legal issues of such facilities at or near nuclear power plants.	8. Same.
9. NRC has exclusive regulatory jurisdiction within the exclusionary boundary of all nuclear power plants. A state could not license a llrw facility within the site boundary.	9. Same - Kansas could not license such a facility within the EAB at Wolf Creek Generating Station.
10. NRC will permit nuclear power plant operators to store their llrw on-site temporarily and for a maximum period of 5 years.	10. Same.

- | | |
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| 11. NRC has not been receptive to the concept of commercial llrw management at nuclear power plant sites. | 11. Same. |
| 12. The areas in which all of the Compact region's nuclear power plants are located were eliminated from siting consideration in the Dames & Moore Phase I Site Exclusionary Study. Siting criteria for nuclear power plants is different from that for llrw facilities. Example - nuclear power plants are located near relatively large bodies of water to provide the necessary cooling capacity. One of the important considerations in siting a llrw facility is avoiding the potential for intrusion by surface water. | 12. Same. The entire Coffey County area was excluded from further siting consideration by the Phase I Study. It did not meet minimum 10 CFR 61 siting criteria. The Wolf Creek Plant is located adjacent to a 5100 acre reservoir and a creek. |
| 13. The state of Oklahoma has no nuclear power plants. | 13. Not applicable. |
| 14. Is there legal basis for requiring a utility to develop and operate such a facility, or for requiring them to accept commercial llrw from other generators within the states?
Could utilities be prevented from accepting llrw from other nuclear power plants from outside the region under inter-utility agreements or from other generators from outside the region under the interstate commerce clause of the U.S. Constitution? | 14. Same. |