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**LOW-LEVEL WASTE:
A PROGRAM FOR ACTION**

Final Report
of the

**National Governors' Association
Task Force on Low-Level Radioactive Waste Disposal**

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November 1980

**Energy and Natural Resources Program
National Governors' Association
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This report was prepared by members of the National Governors' Association Task Force on Low-Level Radioactive Waste Disposal and by the staff of the NGA Energy and Natural Resources Program.

Task Force Chairman: Governor Bruce Babbitt of Arizona.

Other task force members:

Governor Bill Clinton of Arkansas (Chairman, NGA Subcommittee on the Environment);

Governor John V. Evans of Idaho and Governor Richard L. Thornburgh of Pennsylvania (Co-chairmen, NGA Subcommittee on Nuclear Power);

Governor James R. Thompson of Illinois (Chairman, NGA Committee on Transportation, Commerce and Technology);

Governor Robert List of Nevada and Governor Dixy Lee Ray of Washington (Co-chairmen, NGA Subcommittee on Transportation of Hazardous Materials); and

Governor Richard W. Riley (Chairman, State Planning Council on Radioactive Waste Management).

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CONTENTS

Overview	1
The Issue	2
Recommendations	5
Regionalization	5
The Siting Process	13
Incentives and Benefits	18
Research	23
Other Recommendations	25
Conclusion	28
Appendix I Interstate Agreements to Form Regional Low-Level Waste Disposal Sites	29
Appendix II Incentives for the Construction of Low-Level Nuclear Waste Facilities	38
Appendix III A Model Bill Granting the Consent of Congress to Interstate Compacts for the Establishment of Regional Low-Level Waste Disposal Facilities	71

OVERVIEW

The National Governors' Association has, in recent years, actively promoted the concept of "cooperative federalism." The objective is to provide a more equitable division between federal and state roles in areas where states have the capacity and desire to assume responsibility. Low-level nuclear waste management is a field where the states and the federal government have shared responsibility since the inception of the Agreement States program in 1959. Though questions have arisen about some aspects of the program, over two decades of experience have demonstrated that states can and do possess the technical and administrative capacity to manage low-level nuclear waste disposal.

Last year's temporary closure of two of the nation's three commercial waste disposal sites dramatically highlighted ^{change course} the need to establish additional disposal facilities immediately. Those closures were precipitated by the consistent failure of waste generators to properly package and transport their waste and the subsequent failure of several state and federal agencies to adequately enforce waste packaging and transportation regulations and impose proper sanctions. The crisis created by the site closures also raised questions about the appropriate state and federal roles in securing additional capacity as soon as practicable. The prospect of a federally-imposed solution is one option. The Task Force, however, after assessing the problems and proposed alternatives, has concluded that a solution developed by the states is preferable and possible. A state solution recognizes that, in the final analysis, although certain federal involvement is required, the siting of a low-level nuclear waste facility involves primarily state and local issues which are best resolved at the governmental level closest to those affected.

Unlike many problems confronting the nation, the issue of low-level waste does not, in the view of the Task Force, present insurmountable technical or political obstacles. We do not underestimate the challenge involved in siting additional low-level waste facilities, but it has been demonstrated that safe, long-term disposal technology does presently exist and that through proper incentives and public education, increased adequate disposal capacity can be developed. The Task Force is encouraged that the findings of other groups studying the problem are in accord with those of the Task Force.

The relative unanimity of opinion among groups such as the NGA Task Force, the State Planning Council and the U.S. Department of Energy's Low-Level Waste Strategy Task Force, indicates that implementation of a regional strategy leading to the creation of regional sites is the major task remaining to resolve the low-level waste problem.

THE ISSUE

In July of 1979, the Governors of Nevada, South Carolina, and Washington, the states hosting the nation's only operating commercial low-level waste disposal sites, became concerned about the threat to public health and welfare posed by improper packaging and unsafe vehicles. They ⁽²⁾ demanded that the Nuclear Regulatory Commission and the Department of Transportation enforce waste packaging and transportation regulations. ⁽³⁾ Despite assurances from these agencies, ⁽⁴⁾ the State of Washington found further violations of the regulations. ⁽⁵⁾ Governor Ray closed the Hanford facility on October 4. ⁽⁶⁾ On October 23, Governor List closed the Beatty, Nevada site after ^(6.5) a U.S. Geological Survey team uncovered waste buried outside the existing fence -- demonstrating inadequate record-keeping for past operations at the site.

⁽⁸⁾ The sites were eventually reopened, ⁽⁷⁾ following promises of certain corrective actions. ⁽⁹⁾ But the three Governors of the repository states clearly and forcefully stated their unwillingness to continue to shoulder the entire national burden for low-level waste. They emphasized the necessity for other states to share in that responsibility. In addition, ⁽¹⁰⁾ the citizens of repository states have for years borne the health and monetary costs of defective packaging and faulty vehicles. Moreover, some low-level waste is shipped from New England to Hanford, Washington causing ⁽⁵⁾ excessive transportation costs and threatening unnecessary exposure to residents along the shipping route. The Governors' pronouncement, coupled with the diminishing physical capacity of those sites, ⁽⁸⁾ compels immediate action.

Low-level wastes are defined as all radioactive wastes except spent fuel, high-level wastes which result from reprocessing of spent fuel, uranium mill tailings or wastes which contain more than ten nanocuries of transuranic contaminants per gram of material. They are generated by a wide variety of

government, commercial, and medical sources. Federal generators of low-level include defense and research facilities.

The preponderance of commercial low-level waste is contaminated paper, plastics, rubble, filters, construction material, tools, and protective clothing from nuclear power plants. The growing use of radioactive materials in such products as luminous watch dials, measurement devices and smoke alarms has added to the volume of industrial waste. Finally, during the past two decades the medical profession and the academic community have increased their use of radioactive materials in research and diagnosis. Nearly 100 million diagnostic applications of radioactive isotopes are performed annually.

Excluding federal government sources, between 75,000 and 100,000 cubic meters of commercial low-level waste are generated each year. Nearly half comes from power plants, with almost a quarter from industry and the final quarter from medical and research institutions. (A failure to expand low-level nuclear waste capacity can have serious adverse effects on our national energy program and our national health care system.)

(Low-level radioactive waste management may rapidly become crisis management if states continue to delay development of new disposal sites and techniques.) National inaction regarding the creation of additional disposal capacity and techniques threatens to halt or seriously curtail medical research and diagnostic activities critical to the public health and welfare. Every community in this nation will be affected if it becomes more difficult to reap the benefits of nuclear medicine. The timetable associated with providing additional sites is a critical factor.

Until recently, Barnwell accepted low-level waste without restriction, annually receiving in excess of 75% of the nation's commercial wastes. However, since mid-1978, South Carolina has limited waste receipts at the Barnwell site to 2.4 million cubic feet per year. On October 31, 1979, Governor Riley announced a phased schedule to further reduce that limit to 1.2 million cubic feet within two years. Because it is geologically unacceptable, South Carolina also prohibits the burial of organic chemical wastes which comprise a large fraction of the wastes generated by hospitals, medical schools and universities. South Carolina

has also refused to accept any waste from certain generators with poor packaging or shipping records.

Based on projected increases in the volume of low-level waste produced in this country and the restrictions on acceptance by current repository states, DOE estimates that a total of at least six low-level waste disposal sites could be required by the year 1990 in accordance with the following schedule:

- 1980 Barnwell, Beatty and Hanford can handle the nation's low-level waste
- 1982* Hanford could be closed as a national disposal site and a new site in addition to Barnwell and Beatty is required
- 1984 Beatty is filled to capacity and a second new site is required
- 1986 Only Barnwell remains open, three new sites are required
- 1988 Barnwell is still open, but the national generation rate requires four additional sites
- 1990** Barnwell and five additional sites are required

There are several other compelling facts:

- Projections from past trends indicate that the nation will generate 321,000 cubic meters of low-level waste by 1990 as compared to approximately 99,000 cubic meters in 1980.
- DOE estimates that, with a total of six low-level waste disposal sites which may be required by the year 1990, by dividing the nation into five regions, no region would require more than 1-1/3 sites comparable to Barnwell's capacity.

* Policy issues, not physical limitations, are the more immediate factors controlling the future of the Hanford site. Governor Ray has threatened a 1982 closure of the Hanford site as a national repository (except for medical wastes) unless some meaningful progress occurs toward region formation. The mood of the state on this issue is further evidenced by a recent unsuccessful effort by the Washington State Legislature to codify Governor Ray's position, and a subsequent state initiative drive to accomplish the same. However, the actual physical capacity of the present Hanford site is not projected to be exhausted until approximately 1990, with the potential for future site expansion.

** In the absence of any restrictions or other complicating factors relating to these three sites, it is possible, but not probable, that all three sites could remain open until 1990. However, it is already questionable as to whether the Beatty site can expand on surrounding federal lands, and Barnwell has already adopted a phased volume-reduction schedule.

-- The U.S. Department of Energy estimates that without additional sites we could experience severe disposal problems by mid-1983.

-- The Nuclear Regulatory Commission estimates that, even beginning immediately, complete development of a new site would take from two to four years.

In summary, the severity of the problem requires that additional waste disposal capacity be developed as soon as possible. To accomplish that, the Task Force urges the National Governors' Association to adopt the recommendations outlined below.

RECOMMENDATIONS

Regionalization

The most fundamental fact is that we do not need 50 separate state sites. Instead, there is a need for up to six to eight well-regulated and economically viable regional sites. The difficult problem is how to rapidly develop a process to first define the most appropriate multi-state regions.

Unlike high level waste, which is primarily a federal responsibility, the disposition of low-level waste should be largely a state responsibility. In that respect, a regional solution, where disposal sites would be determined by groups of states negotiating cooperatively, is the Task Force's preferred approach. Regionalization, as prescribed by states, is mandated by such considerations as costs, risk in transport, regional balance and geologic or hydrologic circumstances which may render some states unsuitable for such sites.)

Recommendation 1:

EACH STATE SHOULD ACCEPT PRIMARY RESPONSIBILITY FOR THE SAFE DISPOSAL OF LOW-LEVEL RADIOACTIVE WASTE GENERATED WITHIN ITS BORDERS, EXCEPT FOR WASTE GENERATED AT FEDERAL GOVERNMENT FACILITIES. WHILE EACH STATE IS FREE TO ESTABLISH ITS OWN SITE, THE STATES SHOULD PURSUE A REGIONAL APPROACH TO THE LOW-LEVEL WASTE DISPOSAL PROBLEM.

Since low-level waste is generated in every state, it is unfair to expect three / states to shoulder the sole responsibility for the safe disposal of the entire nation's waste. Unlike high level waste, the problem is not so technologically complex that it requires the leadership of the federal government to manage it effectively. Because the states are primarily charged with protecting their citizens' health, safety, and environment, it is appropriate that they assume this responsibility. (In addition, the public is more likely to accept siting and other waste management decisions made by state government than by a more remote, less accessible federal agency.)

A regional approach is preferred because, with the exception of a few of the biggest waste-generating states, the volume of waste generated in a single state is too small to make a disposal site economical, i.e., to produce revenues sufficient for its operation and maintenance. In addition, effective waste management requires coordination of regulation throughout the waste cycle - from generation through transportation and processing to ultimate disposal. Despite the best efforts of the disposal site state, improper handling of the waste at any point along the way can defeat the goal of safe disposal.

Regionalization is required by the diminishing capacity of current disposal sites. But even if the existing sites could continue to handle the entire national output of low-level waste, increasing transportation costs would favor establishing disposal facilities nearer to the waste generators and transportation risks, are greater the longer the waste must travel.

Recommendation 2:

IN ORDER TO FACILITATE THE ESTABLISHMENT OF NEW DISPOSAL SITES, CONGRESS SHOULD AUTHORIZE THE STATES TO ENTER INTO INTERSTATE COMPACTS TO ESTABLISH REGIONAL DISPOSAL SITES. SUCH AUTHORIZATION SHOULD INCLUDE THE POWER TO EXCLUDE WASTE GENERATED OUTSIDE THE REGION FROM THE REGIONAL DISPOSAL SITE.

While the states should take primary responsibility for resolving low-level waste issues, they need the help of Congress to remove two obstacles in their path. First, the states should be given advance generic consent to form interstate compacts or other agreements in this subject area. Interstate compacts may be preferable to less formal modes of agreements between states because, as a binding contractual agreement, they provide the continuity of a stable framework which can endure from siting and licensing through decommissioning of a disposal site.

X The Compact Clause of the U.S. Constitution requires either advance Congressional consent or subsequent ratification of a compact before it can take effect. By granting advance generic consent, Congress would facilitate the formation of regional low-level waste compacts by the states. Advance consent will also avoid the delay which would result if each individual compact had to be submitted to Congress for ratification following negotiation among the states.

Congress should also empower the states to exclude waste generated outside the region from their regional site. Recent court decisions indicate that, absent Congressional authorization, such a ban may be illegal. Without the authority to ban out-of-region waste many states may find it politically difficult to join a new regional waste compact.

Not only would this exclusivity power make it more attractive to form regional waste compacts in the first place, but as regions adopt such provisions the pressure will increase on those states which have not yet acted. (See Appendix I.)

In addition to compact authorization and exclusivity, the federal government should, at the same time, specify a strict policy for interim storage of low-level waste. Federal legislation should be considered to allow use of DOE sites only for temporary storage of low-level waste, and the storage fee should be commensurate with the disposal fee required by the operating sites. This would avoid the prospect of DOE sites becoming a permanent disposal alternative for those states failing to participate in a regional compact or develop their own site.

Two alternative approaches to Recommendation 2 were addressed by the Task Force with the following results:

Alternative 2A Congress should require states to form regional compacts for low-level waste without mention of specific sanctions.

Alternative 2B Congress should require states to form regional compacts and impose sanctions (similar to pending Congressional legislation) for states which fail to form compacts or establish their own sites.

Many of the compact-authorization bills drafted so far have coupled Congressional consent with sanctions for failure by the states to act. For example, the Udall bill (H.R. 6390) and the Lujan bill (H.R. 6212) would cancel NRC licenses in states which have failed to act. A draft bill was submitted by DOE for consideration by the State Planning Council. It would ban interstate low-level waste shipments unless made pursuant to a regional compact. The Task Force feels that such coercive measures are unnecessary at this time.

If the strategy for region-formation suggested below is followed, most of the states can be grouped into waste disposal regions in the near future. If the new regions opt to exclude out-of-region wastes, then pressure will naturally build on the remaining states to devise their own regional or in-state disposal solutions. In this manner, pressure will come from the states themselves rather than from federal coercion. This process is viewed as being more consistent with the principle of state responsibility in this subject area than federal coercion would be.

Therefore, the Task Force would recommend that Congress defer consideration of sanctions to compel the establishment of new disposal sites until at least two years after the enactment of compact consent legislation. States are already confronting the diminishing capacity of present sites and an unequivocal political warning from those states' Governors. If at the end of the two-year period states have not responded effectively, or if problems still exist, stronger federal action may be necessary. But until that time, Congress should confine its role to removing obstacles and allow the states a reasonable chance to solve the problem themselves.

Region Formation - A Strategy

The first challenge the states face in devising a regional solution is determining the regional boundaries. The location of the three existing disposal sites suggests a good starting point. Waste generation rates and transportation considerations should be taken into account in the formation of regions for new disposal sites. But in the final analysis region-formation is a political question which will be influenced by considerations such as historic and geographic ties among the states and the track record they have established for cooperation in other areas of mutual concern.

In devising a rational and orderly strategy for region formation, the Task Force was guided by the following premises:

1. Region-formation should be accomplished by the states, rather than imposed on them by the federal government.
2. Initiatives by groups of states which are already exploring the potential for regional cooperation should be encouraged. (Such initiatives have developed in the Midwest and the Northeast.)
3. The strategy should minimize the risk that individual states would end up isolated from a surrounding region.

In addition, the Task Force makes the following assumptions:

1. The three disposal sites currently operating will likely become regional sites.

2. The Midwest and the Northeast are the most logical areas for the establishment of the first new regional disposal sites both because they are most remote from the current sites, and they include some of the highest volume-generating states.

The Task Force has noted a general reluctance by some states to devise a regional program which actually specifies what states are within what regions.

The Task Force has attempted to tackle this tough issue with a proposal for an initial course of action along the following recommended guidelines:

Recommendation 3:

A TOTAL OF SIX REGIONAL CONFERENCES SHOULD BE ORGANIZED AS SOON AS POSSIBLE TO DISCUSS THE NEED FOR ADDITIONAL DISPOSAL SITES AND THE OPTIONS FOR REGIONAL FACILITIES. THE GOVERNORS OF STATES WITH OPERATING SITES SHOULD CONVENE A CONFERENCE ON REGION-FORMATION FOR THE STATES IN THEIR GENERAL AREA. ALSO, THE NATIONAL GOVERNORS' ASSOCIATION, IN COOPERATION WITH THE NATIONAL CONFERENCE OF STATE LEGISLATURES AND THE STATE PLANNING COUNCIL, SHOULD CONVENE CONFERENCES ON REGION-FORMATION IN THE REGIONS WHICH DO NOT CONTAIN OPERATING DISPOSAL SITES. ALTHOUGH PARTICIPATION IN EACH CONFERENCE SHOULD BE OPEN TO ANY STATE, THE FOLLOWING IS A SUGGESTED FORMAT:

Southeast Regional Conference

*South Carolina
North Carolina
Georgia
Florida
Alabama
Tennessee

Southwest Regional Conference

*Nevada
California
Arizona
New Mexico
Colorado
Utah

South Central Regional Conference

Texas
Louisiana
Mississippi
Arkansas
Missouri

Midwest Regional Conference

Illinois
Indiana
Ohio
Michigan
Wisconsin
Minnesota
Iowa

Northwest Regional Conference

*Washington
Alaska
Idaho
Montana
Oregon
Wyoming

Northeast Regional Conference

Maine
New Hampshire
Vermont
Massachusetts
Rhode Island
Connecticut
New York
New Jersey
Pennsylvania

*The present repository states.

It should be noted that this format merely represents an initial attempt to suggest some natural groupings of states, based on their geographic proximity or previous cooperative efforts and agreements. For instance, states suggested in the Southwest and Northwest Regional Conferences have some historic ties as members of the Western Interstate Energy Board. Similarly, the states grouped in the South Central and Southeast Regional Conferences are among the states which comprise the Southern States Energy Board. States listed below, not included in any of the above groups, should participate in their choice of one or more of the six conferences:

Hawaii
North Dakota
Nebraska
Kansas
Oklahoma
District of Columbia

Kentucky
Virginia
West Virginia
Maryland
Delaware
South Dakota

Other Alternatives

The Task-Force considered the following alternatives to the above strategy:

Alternative 3A Allow the states to continue to negotiate regional compacts on an ad hoc basis.

Alternative 3B Request the federal government (Congress or DOE) to devise regions.

Alternative 3C Have the states (through the NGA or other state associations) convene a national conference on region-formation.

Alternative 3A was rejected because many states have not yet become involved in any discussions leading toward a regional solution to the low-level waste problem. The Task Force placed a high priority on the early involvement of all states in this process. In addition, forming regions on an ad hoc basis poses a real danger of leaving some individual states isolated from surrounding closed regions.

Alternative 3B was rejected because it violates the first premise on which the Task Force proceeded. While federal imposition may become necessary if the states fail to take timely action, it should be the last resort.

Alternative 3C was rejected because it was felt it would be extremely difficult, if not impossible, to achieve consensus among all fifty states on a particular regional scheme.

Other Regionalization Recommendations

Recommendation 4:

A COMPACT FORMED BY ANY REGIONAL GROUP OF STATES SHOULD CONTAIN A PROVISION FOR SUBSEQUENT ADMISSION OF NEW MEMBER STATES AND A MECHANISM TO ENABLE TEMPORARY OR EMERGENCY CONTRACTUAL ARRANGEMENTS WITH NON-REGION STATES OR INDIVIDUAL GENERATORS.

This would prevent a region's ability to exclude other states from becoming oppressive. Temporary arrangements would give time to states outside of compacts to develop their own compact or in-state site.

Recommendation 5:

THE U.S. DEPARTMENT OF ENERGY AND ALL OTHER APPROPRIATE FEDERAL AGENCIES SHOULD PROVIDE TECHNICAL ASSISTANCE TO EACH OF THE REGIONAL CONFERENCES. THIS SHOULD INCLUDE INFORMATION ON WASTE GENERATION, SITE CHARACTERISTICS AND TRANSPORTATION CONSIDERATIONS, AND OTHER RELEVANT

INFORMATION, IN ORDER THAT THE CONFERENCE CAN MAKE A PRACTICAL DETERMINATION ON REGION-FORMATION.

THE SITING PROCESS

Once the states have begun to form regions, the next major decision concerns the process which must be followed in order to develop an appropriate site within the region. Similar to the determination of regions, the siting process will be largely a political one. It will inevitably entail a mixture of state legislative and executive actions.

Consequently, it would be difficult and unwise to presuppose a uniform siting process. The details of the siting process and the individual state's commitments to the binding nature of the selection procedures should be negotiated as a provision of the compact.

A crucial issue here is public acceptance and the means by which the host state can maximize public acceptance. To help assure that support, the siting process must be scrupulously equitable for each state, and the public must know that its state will make the final decision. The whole issue of incentives discussed later, should also help to enhance public acceptance.

Accordingly, the Task Force suggests the following recommendations, alternatives, and other compact considerations with respect to the siting process:

Recommendation 6:

NGA RECOGNIZES THE POLITICAL, TECHNICAL AND ECONOMIC VARIABLES INVOLVED IN EACH REGIONAL PROCESS. THEREFORE, IT URGES THAT THE SPECIFICS OF EACH REGION'S SITING PROCESS BE DETERMINED AS PART OF COMPACT OR AGREEMENT NEGOTIATIONS BY THAT REGIONAL GROUP OF STATES. HOWEVER, TO INSURE THAT THE SITING PROCESS INCLUDES A MAXIMUM AMOUNT OF LOCAL INPUT, EACH STATE WITHIN A REGION SHOULD CREATE ITS OWN STATE REVIEW COMMITTEE TO ACT IN AN ADVISORY ROLE TO ITS OWN EXECUTIVE AND LEGISLATIVE BRANCHES AND TO THE REGIONAL NEGOTIATORS. SUCH COM-

MITTEES SHOULD INCLUDE STATE, LOCAL AND TRIBAL OFFICIALS
AND TECHNICAL EXPERTS, APPOINTED BY THE GOVERNOR.

Such State Review Committees should play a central role, in conjunction with technical assistance provided by the federal government, in developing the blueprint for the siting criteria. These committees will help to offset existing credibility gaps between states and the assisting federal agencies. State Review Committees can provide ongoing cooperation and independent analysis of siting recommendations. State Committees will also begin to involve local, state and tribal officials early in the decision-making stages of the siting process -- a critical feature to later obtaining public acceptance in the site state. The specifics of this process are outlined below.

Steps toward compact formation

Typical compact provisions include: statement of purpose or policy, composition of a governing board, voting rights and financing provisions (see Appendix III). The basic steps toward compact formation include:

1. Region-formation

The region-formation strategy should yield at least a nucleus of states within each of the six general regions. Those states which have reached tentative agreement to explore the possibility of forming a region can then proceed to more detailed negotiations. As they do so, they should try to keep the process open to additional states which may wish to join the region.

2. Negotiations

One consideration at this stage is who will negotiate for the state. The governor will in all likelihood appoint the negotiator(s). Since the final product will require legislative approval, a serious effort should be made to involve legislative leaders in the process from the beginning.

3. Execution

Once the party states have agreed on all the terms, a written agreement will be executed. Initial agreement could be expressed in one of two ways. The governors of each state could exchange reciprocal executive orders embodying the agreement. Or, if all of the party states belong to either the Western Interstate Energy Board or the Southern State Energy Board, the agreement could be executed as a "Supplemental Agreement" under the terms of the W.I.E.B. or S.S.E.B. compacts. However, either supplemental agreements or executive orders should be viewed as interim arrangements only (see Appendix I for more detailed discussion). Ultimately the agreement should be submitted to the legislature of each party state for enactment as a formal interstate compact. Though less formal agreements may serve as a basis for interstate cooperation, pending legislative enactment and the passage of Congressional consent legislation, it is only through legislative enactment by each state that the compact becomes a contractual obligation, legally binding on all the parties. Also, legislative enactment probably would tend to promote greater public acceptance of the proposal.

Site Selection Mechanics

While the various regions will want to adopt site selection procedures which are tailored to their own needs, the Task Force recommends the approach outlined below as one practical solution, with several alternative approaches also suggested. It is important to note that the policy and political decision-making process recommended below is in no way meant to be in lieu of environmental impact statements or any other environmental requirements.

1. Each state in the region should be encouraged to form a State Review Committee, composed of state, local and tribal officials, and technical experts. The State Review Committee would make an initial characterization of potential sites within the state with federal technical assistance as requested. As mentioned, this process would involve local, state and tribal officials early in the decision-making stages of

the siting process -- a critical feature to later obtaining public acceptance in a site state. Each State Review Committee would be encouraged to forward two or more site candidates to the Regional Review Committee.

2. The Regional Review Committee would be comprised of the Chairpersons of each State Review Committee in the region. The Regional Review Committee would narrow the number of candidate sites and make a more detailed characterization of each.
3. Final site selection would be made by the governing board of the compact. The Board would select a site from the list of candidate sites submitted by the Regional Review Committee.

In addition, consideration should be given to formation of a national review board, comprised of members from each region. That board could negotiate - from a national perspective - other potential tradeoffs among states or regions. The board could among other things, facilitate agreements whereby regions exchange different forms of low-level waste.

The Task Force considered, but ultimately rejected, the following as possible alternative approaches to the site selection mechanics:

Alternative 6A Allow DOE and USGS to recommend three suitable sites within each region or devise site selection criteria.

Alternative 6B Request NGA (or other state association) to devise a site selection process.

Host State Rights

The Task Force recommends the following approach to the controversial issue of veto action by a state selected as a regional site:

Recommendation 7:

A STATE WHICH IS ULTIMATELY SELECTED AS A REGIONAL SITE

CAN EXERCISE A VETO, BUT AS A PENALTY THAT STATE COULD BE REQUIRED TO DROP OUT OF THAT COMPACT.

An inevitable question is whether a state chosen to host a regional site should ultimately have veto power. Realistically, states would have a difficult time relinquishing all veto power.

In accordance with the site selection mechanics, a potential site state would have an opportunity to make its case for or against a proposed site to the Regional Review Committee and to the Board. If, despite all the evidence and argument presented by the site state, the Board ultimately selects that site over the site state's objection, the question of veto rights arises. Even if a site state veto is expressly disallowed by the terms of the compact, a de facto veto would likely result if the site state simply refuses to cooperate.

Therefore, the Task Force recommends that the site state be given the right to veto the Board's final decision, but the Board should have the authority to impose sanctions, including expulsion from the compact, if a veto is exercised. By expressly allowing a veto, some states' reluctance to enter a regional compact may be minimized. But significant sanctions should discourage unreasonable vetoes. If the vetoing state is denied access to the regional site it will have to either find another region which will accept its waste, or make its own arrangements in-state. The former would be very difficult, and the latter would likely be economically unattractive. In addition, the vetoing state will probably confront the same political problems in developing an in-state site which it encountered in the regional siting process.

In summary, site-selection procedures should be spelled out in all regional compacts. Even if the region contains an operating disposal site (or if one of the states in the region has offered to host a new regional site) the region may need additional disposal sites in the future. Also, the compact may become involved in siting other low-level waste management facilities, such as a waste processing plant. Or the compact may become involved in siting hazardous waste facilities in one state as an incentive to the acceptance of a low-level waste facility in another state.

INCENTIVES AND BENEFITS

Expeditious development of regional low-level nuclear waste facilities will likely depend on the quality and quantity of incentives and benefits available to state and local units of government. The concept of incentives recognizes the need to encourage and motivate the states and local communities to accept location of a low-level nuclear waste disposal facility. For example, the availability of funds to be used at the discretion of site states and site communities, would act as a positive inducement toward locating a site. On the other hand, the concept of benefits acknowledges the need to provide some type of rightful compensation or commitment for specific needs of or effects on a state and community as a result of their acceptance of such a regional facility. For instance, such benefits could include financial commitments to the site state and community for substantial Perpetual Care and Decommissioning Funds to be provided by waste generators agreed to as a condition of their licensing.

Successful efforts to encourage public acceptance of a site must provide incentives and benefits to those affected by the presence of a regional site. Accordingly, two distinct parties need to be benefited: (1) the local community hosting the waste facility; and (2) the site state. These two parties should receive some kind of incentive and benefit to be provided by the federal government and the generating states within the region. Various state and federal legislative action should be encouraged to achieve that purpose.

To date, federal legislation has taken a negative approach in attempting to force state action on the disposal issue. The Task Force prefers the carrot to the stick and believes that sanctions should be a last resort, only instituted if constructive programs fail to accomplish state action.

The degree to which incentives and benefits are utilized to facilitate local acceptance of a site will depend in part on the success of public education programs. Such programs can minimize the overall need for such incentives or benefits by increasing public awareness regarding the actual low risk associated with such sites. This is especially true given the general public's lack of understanding about the nature of low-level radioactivity.

Consequently, the most effective methods of achieving public acceptance in locating such a facility are to provide for public participation, public education and some form of financial incentive or benefit to the regional site state and community. State, federal and private interests must jointly share the responsibility for accomplishing these educational and economic purposes. Here the concept of "cooperative federalism," so deeply imbedded in our country's history, will face one of its more rigorous tests.

The Task Force offers the following recommendations on the question of incentives and benefits and encourages reference to Appendix II for a more complete discussion of these issues:

Recommendation 8:

CONGRESS SHOULD CREATE A SPECIAL DISCRETIONARY FUND WHICH WOULD CONFER COMPENSATORY AND FINANCIAL BENEFITS TO SITE STATES AND SITE COMMUNITIES TO ACCOMPLISH AT LEAST THREE MAJOR PURPOSES: (1) TO COMPENSATE FOR SIGNIFICANT EFFECTS TO THE INFRASTRUCTURE OF THE COMMUNITY HOSTING A LOW-LEVEL NUCLEAR WASTE FACILITY, (2) TO PROVIDE EFFECTIVE INDUCEMENTS TO DEVELOP REGIONAL LOW-LEVEL NUCLEAR FACILITIES, AND (3) TO PROMOTE PUBLIC ACCEPTANCE OF LOW-LEVEL NUCLEAR WASTE DISPOSAL SITES.

ADDITIONAL INCENTIVES COULD INCLUDE CERTAIN REGULATORY AND ENFORCEMENT AGREEMENTS AMONG THE GENERATING STATES AND A SYSTEM OF "BONUS" REVENUES TO THE SITE COMMUNITY, PART OF WHICH COULD INCLUDE STATE TAXES ASSESSED AGAINST GENERATORS OR SOME FORM OF COMPENSATION AGREED UPON AMONG THE GENERATING STATES.

The following is a suggested approach to Recommendation 8:

1. The Federal Role: Federal incentives must include funds to states for preliminary technical assistance and site characterization and a special fund consisting of discretionary grants

awarded to states hosting a new regional site. The use of such grant monies would be left to the site states and site communities to decide, although eligibility for such funds could be tied to a regional agreement to establish a waste tracking system or agreement to establish a regional volume reduction policy. The discretionary grant appropriation would revert to the U.S. Treasury at a date certain as a further incentive to promote a quick state-regional response.

2. The State Role: Incentives to the site state and site community should include two basic approaches:

- Generating states in the region should provide some combination of economic, regulatory and enforcement commitments to the site state, and
- The site state should require economic incentives be available to any local community or county where the regional site is located.

Generating states should form strict agreements, as part of the terms of a compact, that they will at least:

- Take enforcement action against waste generators in their state on notice of violations.
- Provide inspections of packaging operations prior to shipment to avoid the unsafe transport of low-level wastes.
- Develop policies on transportation routing and notification of shipment.

As a condition of licensing, the site state could require payment of a "bonus" amount from all generators in the region. That revenue would accrue to the site community for its own selected use. A fair compensation sum would be determined by the local government, industry and the states.

3. Industry's Role: It is reasonable to assume that the private sector will assume the capitalization costs for regional sites provided there is enough anticipated waste volume to guarantee a profitable operation. Accordingly, industry must be involved in the early stages of development of regional sites to help determine if the volume generated within the proposed region is sufficient to guarantee future profits and thus induce their front-end investment. Operators of the Barnwell site have estimated capitalization costs for a site to be between \$6 and \$10 million, from initial licensing to completed construction.

The overall pricing system must insure profitability, but at the same time generators must help to provide part of the additional funding for incentives and benefits to the state and local community hosting the site. Generators of the waste should be obligated to pay the previously mentioned "bonus" dollars to local communities, and they should also be required to contribute to the site state's Perpetual Care and Decommissioning Funds.

Recommendations 9:

FEDERAL FUNDS MUST BE MADE AVAILABLE FOR SITE CHARACTERIZATION STUDIES, PLANNING GRANTS, AND OTHER TECHNICAL ASSISTANCE FOR STATES TO DEVELOP REGIONAL SITES. SUCH FUNDING SHOULD BE MADE AVAILABLE IN A MANNER TO ENCOURAGE DEVELOPMENT OF REGIONAL SITES.

Part of the federal role must be to offer available resources only to states engaged in preliminary activities required to develop regional sites. At a minimum, the Nuclear Regulatory Commission, the U.S. Environmental Protection Agency, the U.S. Geological Survey, the U.S. Department of Energy and the Department of Transportation must be available for all reasonable technical assistance requested by such states. Critical to establishing productive state-federal relationships throughout the process will be the state's ability to acquire independent capability to assess their waste disposal problems.

Recommendation 10:

AS A TERM OF THE COMPACT, THE GENERATING STATES SHOULD PROVIDE THE SITE STATE ADEQUATE INCENTIVES. THESE INCENTIVES, TO BE NEGOTIATED BY THE PARTICIPATING STATES, COULD INCLUDE BINDING COMMITMENTS FOR IMPROVED REGULATORY ENFORCEMENT AND AGREEMENTS AMONG STATES TO EXCHANGE DIFFERENT WASTES OR TO NEGOTIATE SPECIFIC EXCHANGES BASED ON ECONOMIC OR OTHER NEEDS OF STATES WITHIN A REGION.

Specific commitments to site states from generating states could include (see Appendix II for more detailed discussion):

- Negotiating tradeoffs among states, such as one or more states agreeing to develop hazardous waste sites or a low-level waste processing facility in exchange for use of a low-level disposal site in another state. For example, the State Commerce Departments in Oregon and Washington negotiated such an exchange agreement in the mid-1960's. Oregon accepts toxic chemical waste from the State of Washington and sends its low-level waste to the Hanford disposal site.
- Requiring strict enforcement or immediate action against the waste generators upon notification by the site state of violations committed by the shipper of a generating state.
- Providing for vigorous enforcement of strict packaging and transportation regulations.

It should be noted that federal rulemaking is currently underway to improve transportation safety and licensing procedures regarding low-level waste. The U.S. Department of Transportation has proposed "Radioactive Materials Highway Routing Regulations." The proposed new requirements would provide national uniformity in highway routing, a notification system to states and a data bank for future emergency response planning. Similarly, the U.S. Nuclear Regulatory Commission has issued a preliminary draft of its regulations (10 C.F.R. Part

61) relating to licensing of low-level waste disposal sites. Although the proposed regulation will not be published for written comment in the Federal Register until early 1981, currently NRC is holding regional workshops to receive critiques on the draft.

RESEARCH

Ongoing, vigorous and comprehensive research programs are necessary in the management of low-level radioactive waste to assure that existing and future low-level waste disposal sites can meet all applicable criteria and standards to protect public health and safety using the best available technology. In addition, such programs can serve to enhance confidence in the methods used to manage these wastes.

Although the techniques used in the management of low-level waste have improved since 1962 when the first commercial low-level waste disposal site was licensed, the basic technology has seen little change. Recently, due primarily to the rapidly increasing costs for disposal, the incentives to develop new technologies have increased, especially in the area of waste treatment and volume reduction. This has prompted the commercial sector to increase its research and development efforts in these particular areas.

The Department of Energy is currently conducting research to improve the management of low-level waste. The Nuclear Regulatory Commission and the Environmental Protection Agency both have ongoing research and assessment programs in support of their development of standards for low-level waste management. These federal efforts include all aspects of radioactive waste management, from generation to final disposal.

While these ongoing efforts are acknowledged, it is felt that programs aimed at managing low-level wastes can be better enhanced if priority research attention is given to the areas recommended below.

Recommendation 11:

A SIMPLE CLASSIFICATION SYSTEM FOR LOW-LEVEL WASTE IS URGENTLY NEEDED. THE NUCLEAR REGULATORY COMMISSION MUST DEVELOP A SYSTEM BASED ON THE TOTAL HAZARD WHICH INCLUDES AN UPPER AND LOWER CONCENTRATION LIMIT.

Low-level waste is currently defined in the regulations as all radioactive waste which is not defined as high-level waste. This is a totally inadequate definition because certain low-level waste may be considered to be below a threshold concentration and therefore could be disposed of as ordinary trash with insignificant impact, while other low-level waste may be above a concentration that would make it unacceptable for shallow land burial.

Recommendation 12:

THE NRC MUST ESTABLISH IMPROVED GUIDELINES CONCERNING GENERATION AND TREATMENT METHODS FOR LOW-LEVEL WASTE. A VOLUME REDUCTION POLICY FOR ALL COMMERCIAL GENERATORS OF RADIOACTIVE WASTE MUST BE ESTABLISHED THAT ADDRESSES BOTH ADMINISTRATIVE AND TECHNOLOGICAL METHODS THAT HAVE BEEN PROVEN AS VIABLE ALTERNATIVES. THIS POLICY SHOULD APPLY TO AGREEMENT STATES AS WELL.

Because of the lack of classification system for low-level waste and the somewhat inadequate regulations concerning generation and treatment, many forms of low-level waste are currently treated and disposed of by methods which are in many cases less than desirable. The NRC policies should include:

1. Continuing research into ways to reduce at the source the total volume of radioactive waste generated through such techniques as substituting non-radioactive substances for radioactive ones and substituting short-lived nuclides for longer-lived ones.
2. Improved methods of segregating and identifying waste at the source, thus eliminating that segment of trash that is currently deemed radioactive by association.

3. Improved methods of volume reduction for certain types of waste such as: (a) controlled incineration for combustible trash and scintillation fluids; or (b) advanced methods of treatment such as calcination for other types of low-level nuclear waste streams.
4. Improving the characteristic of the final low-level waste product by developing better solidification media, improved containers or a combination of both.

Recommendation 13:

A COMPREHENSIVE ENVIRONMENTAL MONITORING PROGRAM IS ESSENTIAL TO DETERMINE HOW EFFECTIVE THE TREATMENT AND DISPOSAL CONSIDERATIONS HAVE BEEN.

Continuing research is necessary to insure that equipment and techniques for environmental monitoring are optimized to detect and isolate possible migration of radioactive material for a low-level waste site both during the operational period and after decommissioning.

OTHER RECOMMENDATIONS

Recommendation 14:

AS A TOP PRIORITY, THE NUCLEAR REGULATORY COMMISSION AND THE DEPARTMENT OF TRANSPORTATION SHOULD DEVELOP A COMPREHENSIVE AND COORDINATED INSPECTION AND ENFORCEMENT PROGRAM TO INSURE STRICT COMPLIANCE WITH PACKAGING AND TRANSPORTATION REGULATIONS.

Since the closure of the two western sites, due mainly to sloppy waste shipments, NRC and DOT have made a more serious effort to improve their policies in these areas. Prior to that, according to a recent report issued by the U.S. General Accounting Office, the agencies gave a low priority to enforcement, relying mainly on the integrity of shippers and carriers to comply with the regulations governing the safety of radioactive materials' transportation. The

GAO report concludes that much of their work remains fragmented and in need of improvement. For instance, neither NRC nor the Department has done an independent assessment of the scope of the packaging and transportation problem.

DOT is currently involved in rulemaking on Highway Routing of Radioactive Materials (Docket HM-164) which includes the movement of spent fuel and other forms of radioactive material and waste. In that respect, it should be noted that the issue of "prenotification" is of particular concern to states. NGA should consider encouraging DOT to cooperate with state, local and tribal governments to design and test a system of prenotification on the highway movement of radioactive materials and wastes, to include the point that existing prenotification systems in states not be preempted.

Recommendation 15:

THE AGREEMENT STATES SHOULD BE ENCOURAGED TO ADOPT CIVIL PENALTY AUTHORITY TO ASSIST IN ENFORCEMENT OF NUCLEAR WASTE REGULATIONS.

The same GAO report concluded that the enforcement program of Agreement States was not comparable to that of NRC's because only two of the 26 states have adopted civil penalty authority. Such authority could serve as an intermediate enforcement tool between a written notice of noncompliance and injunction authority -- the two actions now available. This authority might encourage more effective and immediate compliance as opposed to just a written notice to a licensee.

Recommendation 16:

THE NRC SHOULD ESTABLISH NATIONAL STANDARDS FOR A "CRADLE TO GRAVE" MANIFEST SYSTEM - IN A COORDINATED AND MORE STREAMLINED VERSION OF THE HAZARDOUS WASTE PROGRAM UNDER THE RESOURCE CONSERVATION AND RECOVERY ACT - TO TRACK LOW-LEVEL WASTE FROM THE POINT OF GENERATION TO THE POINT OF DISPOSAL. AGREEMENT STATES

SHOULD BE ENCOURAGED TO ADOPT A COMPARABLE METHOD TO INCREASE REGULATORY OVERSIGHT ON A NATIONAL BASIS.

It is estimated that anywhere from 15% to 40% of low-level waste is not accounted for.

Recommendation 17:

THE NATIONAL GOVERNORS' ASSOCIATION SHOULD PLAY AN ACTIVE ROLE IN IMPLEMENTING THESE RECOMMENDATIONS AND IN WORKING WITH OTHER ORGANIZATIONS TO ACCOMPLISH THE GOALS AND OBJECTIVES SET FORTH IN THIS REPORT. TOWARD THAT END, THE TASK FORCE ENCOURAGES THE NGA TO ALLOCATE SPECIFIC FUNDING AND STAFF RESOURCES FOR IMPLEMENTATION OF THE RECOMMENDATIONS OF THIS REPORT.

CONCLUSION

Developing additional sites and disposal and source reduction techniques for low-level nuclear waste disposal is a critical national priority which requires the expeditious and cooperative action of all states. Clearly, every community in this nation benefits from the nuclear medicine and industrial uses which generate a large portion of this waste. Consequently, it is unfair to expect only three states to solely share the waste disposal burdens for the entire nation's benefits.

In addition to the question of the equity in sharing that burden, there is general consensus that in the next two decades, if the projected increases in national waste generation are accurate, between six and eight new disposal sites may be required. Failure to meet those needs could stifle the national health care delivery system and have serious effects on a major source of our electricity.

In this report, the Task Force has attempted to first define the pivotal issues related to the national waste disposal problem and then recommend pragmatic and innovative solutions. The Task Force has concluded that the remaining issues are not technical, but matters of public policy and political decision-making. The consequences of inaction in developing additional sites were dramatically revealed last year with the temporary closure of two of the three national disposal facilities.

Therefore, the Task Force strongly emphasizes the need for prompt action by states to begin that important cooperative effort. The national challenge to safely and economically resolve the problems of low-level waste disposal can be met through the swift and responsible action of every state.

JOHN V. EVANS
GOVERNOR



OFFICE OF THE GOVERNOR

STATE CAPITOL
BOISE 83720

**INTERSTATE AGREEMENTS TO FORM
REGIONAL LOW-LEVEL WASTE DISPOSAL SITES**

**PREPARED FOR GOV. JOHN V. EVANS
FOR SUBMISSION TO THE
LOW-LEVEL WASTE TASK FORCE OF
THE NATIONAL GOVERNORS' ASSOCIATION**

**BY PAT COSTELLO
LEGAL COUNSEL
IDAHO OFFICE OF ENERGY**

INTERSTATE AGREEMENTS TO FORM
REGIONAL LOW-LEVEL WASTE DISPOSAL SITES

I. Formal Compact or Informal Agreement

There is no legal obstacle which would prevent a group of states from informally agreeing to establish and operate a disposal site in their region. This could be accomplished by an exchange of Executive Orders among the governors.

The advantage to this approach would be that an agreement could be executed rather quickly. The disadvantage would be that such an agreement would not be legally enforceable. A state could unilaterally repudiate the agreement as soon as the governor had a change of heart, or the state had a change of governors. Since the objective is to license and operate a site over a period of many years, this instability is probably unacceptable.

In addition, a regional site established through informal agreement probably could not legally refuse to accept waste generated in states outside the region.¹ Therefore, the regional objective would be defeated.

A formal Interstate Compact, on the other hand, is a binding contract, which can only be modified or terminated by its terms, or with the consent of all the parties to it.

¹. City of Philadelphia v. New Jersey, 437 U.S. 617, 98 S. Ct. 2531, 57 L. Ed. 2d 475 (1978), discussed in more detail in Section II-C below.

By this means, the states could provide a stable framework to manage the site from licensing through decommissioning. Also, with the consent of Congress, the party states could exclude waste from outside the region.

II. Consent of Congress

Although the U. S. Constitution ². requires Congressional consent for any interstate compact or agreement compact or agreement, the U. S. Supreme Court has held that this requirement does not apply to all compacts. Congressional consent is only required if the compact" is directed at the formation of any combination tending to the increase of political power in the states, which may encroach upon or interfere with the just supremacy of the United States." ³. Although it may be arguable whether a regional low-level waste disposal compact would require Congressional consent under this test, it is highly probable that such a compact would require Congressional consent if it purported to exclude out-of-region waste. ⁴.

². Art. 1 Section 10 Clause 3: "No State shall, without the consent of Congress. . . ., enter into any Agreement or Compact with another State, or with a foreign power."

³. U. S. Steel Corp. v. Multistate Tax Commission 434 U. S. 452, 98 S. Ct. 799, 54 L. Ed. 2d 682 (1978).

⁴. Under the Compact Clause cases, such discrimination against non-party states would seem to be a prime example of enhancement of the states' power at the expense of the federal government. In addition, since City of Philadelphia v. New Jersey (Supra, Note 1) indicates the exclusion of out-of-state waste from the host state's disposal site is an unconstitutional discrimination against Interstate Commerce, such a compact would run afoul of the Commerce Clause as well, absent Congressional authorization.

The manner in which Congress may give its consent is not spelled out in the Constitution. Historically, consent has taken a variety of forms. The usual method is by passing a statute or joint resolution embodying a compact which has already been negotiated by the states. On occasion, however, Congress has given general consent in advance to the states to compact in a given subject area.⁵ And there have even been instances when tacit consent was implied.

A. Advance Consent vs. Individual Consent

Advance consent is desirable because it obviates the need to run each individual compact through Congress. Not only is advance consent more efficient, but it would discourage the temptation to re-draw the regions formed by states when the compacts were submitted to Congress. However, there is a liability: each individual compact would be subject to legal attack on the grounds that some provision in it was beyond the scope of the original consent.

⁵. See, e.g., Highway Safety Compacts, 72 Stat. 635 (1958), Airport Compacts, 73 Stat. 333 (1959) and Crime Control Compacts, 48 Stat. 909 (1934).

B. Permissive vs. Coercive Consent.

Historically, Congress has never mandated interstate compacts. However, most of the regional low-level waste bills that have surfaced so far are coercive. Two would cancel generator licenses after a certain date, and only allow new licenses to issue in states with compacts or disposal sites.⁶ One would forbid interstate transport of low-level waste unless done pursuant to a compact between the generator state and the disposal state.⁷ One bill has been introduced thus far which is purely permissive compact consent.⁸ Whether this approach is preferred would seem to be another issue to be addressed by the Task Force.

C. Authority to Exclude.

City of Philadelphia v. New Jersey⁹ held invalid a state prohibition on the disposal of ordinary waste from out-of-state in in-state landfills. The court distinguished earlier quarantine cases (involving diseased cattle and contaminated rags) on the basis that the danger posed in those cases arose from the mere transportation of the banned objects, while there was no showing in the

⁶ H.R. 6390 (Udall), H.R. 6212 (Lujan)

⁷ D.O.E. bill submitted to State Planning Council.

⁸ H.R. 5809 (Derrick)

⁹ Supra., Note 1.

New Jersey case that transport of the waste to the sites posed any danger. While the Court might view the disposal of low-level waste as posing more of a transportation risk, the host state's authority to exclude out-of-state waste from its site is in considerable doubt. This doubt could be dispelled if Congress expressly gave the states such authority.* For that reason, an exclusivity provision should probably be included in any Compact Consent legislation. None of the bills pending in the House contain such a provision, although it might fairly be implied from the existing language.^{10.}

III. Compact Formation

A. Existing Compacts.

The simplest way to form a regional low-level waste compact would be to use an existing compact as the vehicle for the new compact. This would obviate the necessity of Congressional consent and state legislative enactment. Two existing compacts

^{10.} For example, "each State is hereby authorized to enter into such agreements and compacts with other States as may be necessary to establish a system of regional disposal sites." (H.R. 5809.) It could be argued that exclusivity is necessary to the formation of a regional system.

* Prudential Insurance Company v. Benjamin, 328 U.S. 408, 66 S. Ct. 1142, 90 L.Ed. 1342 (1946). See discussion of this case in Footnote 1 of section-by-section analysis, Appendix III, NGA Low-Level Radioactive Waste Disposal Task Force Model Congressional Consent Compact Bill.

may lend themselves to this approach. They are the Western Interstate Energy Compact¹¹. and the Southern States Energy Conference.¹² Each of these compacts gives the governing board broad powers in the area of nuclear energy. Each has a provision that two or more members may enter into Supplemental Agreements covering anything the board has the power to do. The two boards are both considering the advisability of using the Supplemental Agreements provisions of W.I.E.B. and S.S.E.B. as vehicles for regional low-level waste compacts. Thirty-one states (and Puerto Rico) are eligible for membership in these two compacts.

One disadvantage to using existing compacts would be that the exclusivity question would remain unresolved.

B. New Compacts.

The steps required to form a new compact are: negotiation, state legislative enactment, and (advance or subsequent) Congressional consent.

¹¹. W.I.E.B. members: Alaska, Arizona, California, Colorado, Montana, Nebraska, Nevada, New Mexico, North Dakota, Utah, Washington, and Wyoming. Hawaii and Idaho are eligible for membership, but do not currently belong.

¹². Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, Missouri, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia, Puerto Rico.

IV. Contents

The contents of each compact, will, of course, be determined by negotiations among the affected states.

These provisions are typically found in other compacts: a Statement of Purpose or Policy; composition of a governing board, voting rights and financing provisions. Additional subjects for regional low-level waste compact negotiations might include:

- the Region (whether other states could be added later).
- Site selection mechanics.
- Host state rights (veto?)
- Incentives to host state from beneficiary states.

Five midwestern states¹³. have begun preliminary discussions on forming a compact. A model draft prepared for them by E.G. & G. - Idaho is included in the Appendix.

¹³. Michigan, Wisconsin, Illinois, Indiana and Ohio.

BIBLIOGRAPHY

Council of State Governments, Interstate Compacts and Agencies, 1979 Edition.

Engdahl, David, When is a Compact Not a Compact? 64 Michigan Law Review 63 (1965).

Zimmermann, Frederick and Wendell, Mitchell, The Law and Use of Interstate Compacts, The Council of State Governments, 1976.

A BILL

To authorize agreements or compacts among States for the disposal of low-level radioactive wastes, and for other purposes

1 Be it enacted by the Senate and House of Representatives

2 of the United States of America in Congress assembled, That

3 chapter 19 of the Atomic Energy Act of 1954 is amended by

4 inserting after section 275 the following new sections:

5 "SEC. 276. COMMERCIAL RADIOACTIVE WASTE DISPOSAL.

6 "a. After December 31, 1983, the interstate transportation
7 for the purpose of disposal of source material, special
8 nuclear material, or by-product material contained in waste
9 which, under the Nuclear Regulatory Commission's regulations,
10 may be disposed of by shallow land burial is prohibited
11 unless the State from which the transportation originates
12 has entered into an agreement or compact with the State in
13 which the disposal is to occur concerning the management and
14 disposal of that material. The consent of Congress is given
15 to each of the several States to enter into those agreements
16 or compacts with any other State or States.

17 "b. This section does not apply to material transported
18 by or for an agency of the United States in connection with
19 a national defense or other program or activity that is not
20 subject to licensing by the Nuclear Regulatory Commission."

Appendix II

INCENTIVES FOR THE CONSTRUCTION OF
LOW LEVEL NUCLEAR WASTE FACILITIES

William A. O'Connor

June 19, 1980

[T]he early developers of nuclear power had three failings--they knew too much about radioactivity, not enough about geology, and almost nothing about dealing with the public and its reactions. 1/

The purpose of this memorandum is to discuss possible incentives to state and local units of government for construction of low level nuclear waste facilities. Attendant to such a discussion is the examination of broader questions of public education and the purposes for which incentives are generally designed. Accordingly, prior to a discussion of actual types of incentives and methods for their implementation, this memorandum will commence with a brief discussion of the concept of harm for which the incentive is designed to compensate. Following that, the interrelationship of incentives to public education will be explored. As a final preliminary matter, the nature of the group benefited by the incentive will be articulated. The definition of the benefited group necessarily will determine the nature of the incentive. Following a discussion of these issues, the types of incentives for both the host state and local government will be set forth. Next, possible methodologies for implementing such incentive systems will be examined. The memorandum concludes with a brief section on recommendations for possible action.

This memorandum is by no means intended to be exhaustive and it is not held out as representing a summary of the work that has been done in the area. 2/ Much work will be done in

this critical area in the near future. It is important to note that most of the bibliographical materials were written prior to March 28, 1979, the date of the incident at Three Mile Island, Pennsylvania. It is highly likely that the effect of that incident, both on public perception and on the nature of our understanding of these problems, significantly changed the subsequent thinking. These particular concerns should be kept in mind in reading this memorandum.

I. Concept of Harm - Compensation

It is difficult to determine the actual sociological, psychological and economic impact of a low level waste facility on a given community. Given appropriate siting and management, there can be no question that such sites represent no health hazards.^{3/} It is possible to draw parallels between low level waste facilities and nuclear steam-generating facilities. Studies on the local impact of the latter reflect a somewhat positive immediate effect on land values and growth rates.^{4/} As a general rule the presence of a nuclear power facility does not appear to be a negative factor in the residential location choice.^{5/} It is evident, however, that nuclear steam-generating facilities are distinguishable from waste facilities in the public mind.^{6/}

What does seem to be beyond any question is that, at least prior to Three Mile Island, waste disposal was perceived as the

largest problem by the public in the entire nuclear power area. It is reasonable to anticipate that the state official who proposes siting a low level waste facility can anticipate a negative reaction by the public and that the ensuing debate on the question will be emotionally charged, if not totally devoid of rationality ^{7/} In addition, depending upon the location of the facility, special interest groups will perceive the presence of the waste facility as a threat, e.g., recreational industries, real estate developers.

The goal of the proposed incentive scheme is to pay the local group and the host state: 1.) for actual harm; 2.) for perceived harm; 3.) for the purpose of inducing or rewarding for permitting the site to be constructed and operated. This three-part approach represents the broadest form of compensation and a departure of traditional thinking in the area. In traditional instances, the definition of compensation involves a make-whole concept. This approach contemplates incentives for "observable, physical change in the state of the world that impinges on an interest of one or more persons."^{8/} A comprehensive incentive scheme must doubtless encompass compensation for actual damage of such a facility. Thus, the scheme will cover impact on local property values, taxes, and local public services. It will also ensure that the state or local government will not be obliged to underwrite the cost of regulation of a privately operated site. However, the concept of incentives must include

a far broader area. It will also compensate for perceived, though not necessarily actual, negative effects of the presence of the facility. It is in part a simple inducement which is independent of any harm, actual or perceived.

Compensation will necessarily be affected by public education programs. Public education could minimize the need for more significant incentives simply by informing the public that the risk of the presence of such a site is less than was initially perceived.

To analyze the nature of the harm being compensated for, a two-step analysis must be considered. First, what changes in existing financial and legal arrangements and public attitudes would be required to put such a system in operation must be determined. Second, what the social and political consequences of such an act are must be assessed. Following consideration of these elements the federal and state governments involved will have some concept of the amount and type of compensation needed.^{9/}

II. Public Education

As noted earlier, a comprehensive incentive program should be designed to compensate for not only actual harm to a local community or to a state, but also the perceived negative effect of the presence of such a facility.^{10/} Accordingly, public education will have a significant impact on the nature and extent of the incentives. It perhaps need not be stated that

there is a lack of understanding about radioactivity.^{11/} In addition to frightening people in the community, this lack of understanding prevents citizens from reasonably weighing the negative impact of such a facility against all the other risks of daily living. In addition, there is little information on which to base discussion of advantages and disadvantages of different organizational strategies for waste management.^{12/} By virtue of a proposal for construction of such a facility, there is heightened sensitivity to its environmental threat at a time when opportunity to study dispassionately the question is minimized.

A crucial role of state, federal and local government in setting up a facility then is to interact with the public, making whatever information is necessary available to it. A public education program will have to address a number of issues in the local community. It should demonstrate that the facility serves primarily the needs of the consumers within the states or region. It should insure maximum public access to the government concerning all issues relating to waste management.^{13/} This element is crucial inasmuch as it appears increasingly that the public mistrusts government and is especially sensitive to secrecy in the decisionmaking process.^{14/} The program in addition should concentrate on outlining short and long term impacts of waste facilities. It should make clear the relative advantages and disadvantages of the presence of such a facility.

This program should utilize fully the publicly attuned scientist. It is crucial that the scientist communicate to the public the limits of his knowledge as well as the extent of what is known, putting both into perspective for the public.^{15/} The subject matter should cover every concern of waste management: who should run the facility, its effect on the community, the expected nature of a conflict over operation, amount and type of waste generated.

Careful public education will significantly shape the incentive program. It will reduce, in some instances, the need to satisfy possibly extortionate demands by host states and local governments: if the true nature of the impact is known, it will be far more difficult to require grandiose rewards. Thus, it will insure fairness in the granting of benefits and encourage participation by the federal government and the generating states, both of which will be reassured of the reasonableness of the scheme. Significantly, it will place the host state and local governments in a position of understanding the regional bargain they are entering: the exact quid pro quos will be better known.

III. Nature of the Benefited Group

The central philosophy behind an incentive program is to distribute fairly burdens and benefits among affected groups. In order to effectuate this goal, those groups enjoying benefits and suffering harm must be identified. The advantage of such

approach can be seen in an analogous area of a nuclear steam-generating facility:

[T]he group that benefits from electric power from a given plant is, at least in part, different from the group that bears the primary social cost of the plant. The typical manifestation of this phenomenon is the expression, "Perhaps we need more nuclear power plants, but not in my backyard."

The traditional mechanism for resolving this problem, in fact, has been to redistribute costs and benefits, usually through the tax system. Residents in the local area of the plant are given tax benefits to compensate for the disadvantages of having the plant nearby. Consumers of electricity, of course, pay for that tax. This system is imperfect in a number of respects, one of which being that social costs do not distribute themselves conveniently along the political boundaries (normally municipalities) used for tax purposes. With all its imperfections, however, this compensation mechanism seemed to operate relatively well for some time.^{16/}

Three identifiable groups need to be benefited. The first group is the community in which the waste facility will be housed [local group]. The second benefited group is the host state community [host state].^{17/} These groups represent distinct, sometimes differing, interests. Often the waste facility, by virtue of its mere presence, offers incentives to a local community which have virtually no effect on the state community. In addition, it is far more difficult to formulate a compensation scheme at the state level which will be acceptable to citizens of the state as a whole. In informal conversation, real estate developers in the State of Illinois have suggested that political problems will generally not be found with the specific local

community, but with a larger community where traditional inducements have no immediate impact. The third entity to be benefited is the state government which must be in a position to survive politically after setting up the low level waste facility. To a large extent the interests of this group are completely consistent with that of the state community.

One other type of group should be analyzed, that which confers the benefits. Certainly the federal government, a state delivering waste to the host state [generating state] and the host state are capable of conferring benefits upon the locality. In addition, the federal government and a generating state should be capable of conferring benefits on the host state.

IV. Incentives

In considering the actual incentives to be awarded to the host state or the local governmental unit it is necessary to consider two separate but obviously interrelated issues. First, the exact nature of the incentive must be examined. As a general concept, the potential benefits should shape the incentive project design.^{18/} The benefits are shaped by the nature of the needs of the locality or the state. In addition, the process benefits, the extent of the local and state participation in the waste management decision, should be emphasized.^{19/} Finally, as a general matter, an effort should be made to construe the scope of the benefits given by the program as broadly as possible.^{20/} All of the above should be

tied in with the public education initiative. Of course, the range of potential social and economic impacts associated with the repository depends upon the actual site. Second, the methodology whereby the incentive is delivered to the governmental unit must be explored. Although there is a certain amount of mixing of these two questions, each will be discussed separately and in order.

A. Nature of the Incentive

i. Incentives to Local Governments

There are four types of incentives which can be conferred on a local government. They are: 1.) economic; 2.) environmental; 3.) social-cultural; 4.) public safety.

Economic incentives are available most commonly in two forms. They are generally the most easily understood and implemented. The first type could be described as the fiscal-impact assistance incentive.^{21/} This form of incentive is designed to compensate for actual harm in the form of funds for the impact of the facility in the local area. The funds can be made available in two separate ways. A waste surcharge which is based upon a combination of volume and toxicity or a user fee can set funds aside in trust from which cost could be drawn from the impact of the facility. A second form of economic incentive is a direct monetary award. The direct monetary award basically represents a payment directly to the unit of government involved. It comes in a number of forms.

Another form is the direct payment of impact mitigation funds to the locality. An example of this is the development of the Trident Submarine Base in Kitsap County, Washington, where a local board was set up to administer payment of the funds.^{22/} (More on the methodology of payment can be found in the section on implementation). Another form of direct monetary incentive is the payment of a block grant to a locality typically from the federal government through an existing federal program.^{23/} Another form of direct monetary award would be an outright gift to the locals in the form of a percentage of actual revenue generated from the waste. This would be a highly appropriate way of giving an incentive inasmuch as the continuing receipt of such waste would have an immediate and direct benefit upon the locality. One other form of direct monetary benefit would be certain types of tax relief whereby the host state would confer certain advantages to local property owners which would not otherwise be available within the states.

The next type of economic incentive relates to employment benefits in the local community.^{24/} These benefits can take differing forms. The first, and perhaps easiest in implementing, would simply be a commitment to employ a certain number of local residents in the waste project. This program could require a certain amount of on-site training for the unskilled in the locality. This would represent a significant social contribution which would make the presence of the

facility beneficial in the locale. Another form of employment benefit could be the awarding of scholarships by the site operator to a gifted local student for either his studies in the future or the work that he has done to date in the area of health physics, geology, hydrology, or other issues related to waste management. The potentially most significant contribution in the area of employment, the consensus appears to be, is the designation or commitment of a percentage of the payroll of the waste facility designated for local residents.

Another area of economic incentive for a low level waste facility falls under the general rubric of economic development.^{25/} Economic development is distinguishable from employment, direct monetary and fiscal-impact assistance by virtue of the tangential nature of its effect on the community. Specifically, economic development would relate to activities not directly involved with the operation of the facility. One form of economic development incentive would be the encouragement of users of the facility to settle near the waste site. This would be seen as enhancing the general business climate in the state and in the host community. Such climate would also be enhanced by obtaining a commitment from the site developer or the host state to maximize local and instate purchases and services.^{26/} In addition, new housing, business complexes and shopping centers and the like which could occur as a result of the presence of the facility being there or as a result of state or federal action to encourage the creation

of such entities would be another form of incentive in the economic development area.^{27/}

Related to this concept is the so-called substitute facility doctrine.^{28/} This doctrine, though related, does not technically amount to an incentive, but rather is a direct compensation for harm suffered as a result of the presence of the facility. The doctrine was developed by the courts to meet the unique needs of public condemnees. The purpose of the doctrine is to insure that damages awarded for public condemnation are sufficient to finance a replacement.

Another significant contribution in this area could be a so-called tying arrangement. Antitrust law prohibits the conditioning of the sale or purchase of a specific good or service upon the purchase of another in certain instances as an unlawful tying agreement. In the economic incentive context, the creation of a waste disposal facility could be tied to some other significant federal or state project. Specifically, the locality, with the likely participation of the host state, could require that significant federal projects be commenced and performed in the community and would tie their acceptance of the waste disposal facility to other desirable federal projects. This could involve any number of specialized federal projects and basically could be determined on a case-by-case basis dependent upon the unique needs of the locality and the host state. As a final economic development incentive, it would be possible

to allow the artificial boosting of the value of land around the facility, for example, the zoning of land which in the prior time was agricultural to industrial.

Although it may appear to be facially contradictory, an incentive for a locality to set up a low level waste facility can be a significantly positive environmental impact accompanying such construction. The incentives in this area would basically involve land preservation measures in any number of forms. It would be possible to confer farmland development rights on the locality. Such rights would amount to easements allowing for continued farmland but prohibiting other development. This could be done in conjunction with possible zoning changes. The granting of specialized water, soil erosion or other agricultural benefits in the local community could be a significant environmental contribution. In addition, the commitment to construct game preserves or parks would also be an environmental incentive to construct the site. Such a preserve or park could encompass "urban-oriented, organized recreational facilities, activities and parks."^{29/} Examples of such projects would be the lake constructed near the Clinton Power Plant in Clinton, Illinois or the game preserves at the Argonne National Lab outside Chicago. An inevitable incentive or effect from the construction of a local waste facility would basically be risk minimization from reduced transport in the state. This would especially be the case where one state set up its own facility which was closed to out-of-state traffic.

The next area of local incentives could be designated as social, governmental or cultural.^{30/} Infrastructure improvements in local rail transport, water supply, waste water treatment or education would be a significant contribution. Another area of social-cultural incentive would relate to improvements in job training or scholarships for gifted students in the areas discussed above. Funding by the site developer, the host state, the generating states or the federal government of local academic projects, possibly related to waste management issues, is another form of social-cultural incentive. In addition, the sponsorship of local cultural events could serve as a motivation to a local community to site a waste facility.

A significant cultural and social incentive would be a commitment regarding the ultimate use of the site. For example, the site in Barnwell, South Carolina may ultimately be used as a golf course. A commitment on ultimate site use would significantly further public education efforts, since it would demonstrate actual impact of a properly monitored site. Improvement in local government administration offers inducement to create a site. Construction of a facility will strain the planning and impact management capabilities of any local government. Generating states, the federal government, the host state and the site developer could contribute to the management capabilities of the local government for comprehensive planning, impact management and program development which would necessarily affect other areas of

government. A commitment to develop such capabilities locally could be seen as a highly positive step from a local government standpoint since there is a traditional lack of funds for such.

Related to the improvement in local governmental administration concept is the final area of local incentives: public safety development. The influx of personnel to construct and to run the site will require additional public safety activities. Development of stronger, more sophisticated public safety and medical capabilities will thus result. Specific training courses could be made available to the locality, e.g., F.B.I. training courses. Federal and state equipment grants could be focused on the locale.

ii. Incentives to the State

It is apparent, especially when considering the possibility of a regional solution, that it is simply not enough to confer a benefit on the locality which houses the site. For obvious political reasons, certain incentives must be conferred upon the host state by generating states and the federal government in order to effectuate the construction of a low level nuclear waste disposal facility. The nature of the incentive must necessarily depend upon the unique needs of the host state.^{31/} Accordingly, what is set forth below is merely a suggestion of types of benefits which could be conferred upon the host state. However, the most likely way of determining the most effective incentive would be by consulting affected members in state government as to their unique needs. This could conceivably be done through Governor's office or, if the state has such a body, natural resource commissions or subcabinets which represent the membership of different affected units of government. The purpose of making inquiry with these groups would be to determine the specific needs of the host state. In the absence of such a determination, it would be difficult indeed to hope to confer benefits upon the host state.

At any rate, it is possible to set forth some of the general incentives which could be conferred by generating states or the federal government. A significant area, and one which is equally as emotionally volatile as nuclear waste management, would be a commitment to aid the state prison population. In return for the receipt of a low level nuclear waste facility, the federal government or the generating state could commit to take an agreed-upon number of

prisoners a year or to take a number of prisoners days per year. Another area of incentive would be an agreement to take toxic liquid or solid hazardous waste in return for the host state taking low level waste. 32/

A generating state could site equally unpleasant industrial facilities in proximity to and subject, in part, at least, to the control of the situs state. Examples of such facilities would be: oil refineries, other petrochemical plants, coal liquification facilities. Related to this would be a generating state commitment to share petroleum reserve facilities, e.g., Louisiana salt domes.

Another possible incentive would be an agreement to a favorable allocation to the host state of scarce environmental resources or other fungible commodities shared by the generating states and the host state in a specific region. For example, additional amounts of water could be diverted to the host state in return for receipt of low level waste. An increased allotment of electrical power from a regional energy grid could be given to the situs state. Conceivably, such allotment could be negotiated on the basis of National Electric Reliability Council statistics.

Generating states and the federal government could commit to insure that certain scholarships to state institutions for waste management or other studies be awarded in return for the creation of such facilities. Alternatively, grants for economic or cultural improvements could encourage a state to permit a site within its borders. Another possible incentive to the host state could be the commitment of technical expertise on that or related

projects. The federal government or the major industrial states, which, as a general rule generate the majority of waste, would be in the best position to offer these types of incentives.

Finally, generating states could provide matching funds to federal grants to the host state. Presumably, a regional Task Force could determine appropriate amounts for each state.

V. Development of an Incentive System

The immediately preceding section dealt with the nature of the benefit conferred upon the situs state or the local government unit. This section deals with the methodology by which the benefit is conferred as opposed to what specifically is received. The threshold question, therefore, is the general design of the compensation scheme. It contains three basic elements. First, the criteria for the individuals, groups, or governmental bodies receiving the benefits must be articulated. Second, the nature of the benefit conferred (which is covered in the section immediately prior) must be designated. Third, if appropriate, benefit measurability criteria must be set forth. Regardless of the precise nature of the benefit, these three steps are an integral part of a compensation scheme.

Having taken those steps, a variety of methods of conferring benefits are available. Foremost is the payment in lieu of taxes technique. Under the Atomic Energy Act of 1954, the Department of Energy is authorized to make payments to

local and state governments in lieu of property taxes for properties needed for the department's activities. 33/ As a general rule this compensation scheme applies to compensation for local governments rather than those rare instances where individuals might receive it. A second approach would be the provision of special impact funds by the federal government or by the generating states jointly to meet impact mitigation needs as well as provide for rewards to the local government and host state. This is generally not provided for by existing federal programs. An example of this approach is the development of the Trident Submarine Base in Kitsap County, Washington. During that development, legislation was enacted empowering a task force to receive such funds. The agency established was called the Trident Coordinating Office which distributed funds to various programs. Basically, the task force, which would ideally have a regional base or a state base for dealing with a specific locality, would be in charge of insuring that awarded benefits were received by the proper entities and relating to the benefited groups to determine both their specific needs and establishing eligibility criteria, identifying recipients and monitoring each step of the compensation scheme. An alternative to this approach would be the award of funds to an existing program or agency which would be empowered to provide funds. 34/

Two additional implementations mechanisms exist which merit some attention. One is principally designed for use

at the local level: incentive or bonus zoning. 35/ Generally, incentive zoning can be employed to provide public parks, plazas, covered pedestrian space, theaters, off-street parking, arcades, observation decks, transit developments, lakes beaches, lighting, replacement of signs, schools, firehouses, resurfaced streets, extension of waters and sewers. Incentive or bonus zoning is a land use control technique by which a builder or developer agrees to provide certain amenities that the municipality would not otherwise be able to construct itself. Conceivably, through host state approval, the locality could require by its zoning that the low level waste facility provide the amenities articulated. A dedication program exists where a municipality requires that certain specified facilities be provided, or a fee in lieu of the dedicated facility given, in return for a permit to build. 36/

Finally, there are a number of specific federal programs which are designed to give compensation for specific forms of harm. They are designed to compensate for the adverse presence of a federal facility and are accordingly outside the broad scope of the definition of harm set forth above. They will be set out, however, simply to suggest a possible form of compensation for at least one aspect of the general concept of harm:

1. The Education Act of 1950 provides for assistance to local educational agencies in areas affected by federal activity. 37/

2. The Housing and Community Development Act of 1974 could be used as a conduit for certain forms of block grants to affected localities. 38/
3. The Small Business Act of 1950 authorized the Small Business Administration to make direct and guaranteed insured loans to certain businesses which suffer economic injury as a result of displacement by a federal facility. 39/ Conceivably, this Act could possibly be amended to a federally approved facility such as a low level waste site.
4. The Uniform Relocation Assistance Act of 1971 directs federal agencies to compensate persons displaced by a federal project. Such compensation includes damage to real and personal property, moving costs and relocation adjustment. 40/
5. The HUD Comprehensive Planning Assistance Program, or "701" Program, was enacted to assist local governments in developing certain planning capability. Conceivably this act could be used for certain aspects of impact of a low level waste facility. 41/
6. The Intergovernmental Personnel Act of 1970 provides authority for grants and technical assistance for local government use to improve personnel administration to admit local personnel

to federal employee training programs and to assign federal personnel to local governments. 42/

7. The Economic Development Administration offers grants for local planning staff salaries and administrative expenses into the Public Works and Development Act of 1965. 43/
8. The Department of Defense administers a 1970 Presidential memorandum which is designed to offset the impacts of military base closures or developments. It is conceivable that such a program could be used as a model or could actually be applied in certain instances where there is an adverse affect by virtue of the presence of the facility. 44/

VI. Recommendations

In accordance with this scheme, the National Governors Association should make the following recommendations.

1. The federal government by legislation should create a fund for conferring benefits and compensating for impact of a low level waste site on the host state and the locality. Such funds would contain seed money for technical and site characterization.

2. The federal government should fund task forces for the regional implementation of low level waste facilities. These task forces should be set up on a regional basis and be made up of local and state officials in the region.

3. The federal government should amend federal legislation to expand possible impact fund availability in existing programs and statutes.

4. The federal government should designate specific projects which will be granted in conjunction with construction of low level waste facilities as a form of inducement for localities and host states to set up low level waste facilities.

5. The federal government should establish specific federal funds for public education efforts.

6. The federal government, in conjunction with the states, should ensure open government communication on all levels, ensure that secrecy be avoided and that maximum public participation both at the state and local level be implemented.

7. The federal government should sponsor appropriate compact legislation to permit regional compacts.

8. States should participate in regional Task Forces agreeing to the principle of a regional solution. The first goal of these Task Forces is to designate acceptable incentives that generating states of the region would confer on the host states. Among such possible incentives would be acceptance of other forms of waste, the sharing of scarce resources, aid in state prison population management, and siting of other unpleasant industrial facilities. They should also consider the provision of matching funds to the federal grant awarded the host state and flat grants.

Notes and References

- 1/ R. P. Hammond, "Nuclear Wastes and Public Acceptance," 67 American Science 146 (1979)

- 2/ As a point of reference, it should be noted, however, that the incentive concept was subjected to a computer search at the Oak Ridge National Laboratory, and no articles or materials were obtained as a result.

- 3/ This question is doubtless subject to debate. For the purposes of this memorandum, the safety of such facilities will be assumed.

- 4/ H. B. Gamble et al, "Effects of Nuclear Power Plants on Community Growth and Residential Property Values," NUREG/CR-0454 p. 4 [hereinafter cited as "Effects of Nuclear Power Plants"].

- 5/ Id. at 59-60.

- 6/ See D. Zinberg, "The Public and Nuclear Waste Management," The Bulletin of Atomic Scientists, January, 1979, p. 34,35 [hereinafter cited as "Public and Nuclear Waste"]; M. K. Lindell et al, "Radioactive Wastes: Public Attitudes Toward Disposal Facilities," Seattle: Battelle Memorial Institute, October, 1978, p. 49; M. Greene & T. Hunter, "The Management of Social and Economic Impacts with a Nuclear Waste Repository: A Preliminary Study," Seattle: Battelle Memorial Institute, May, 1978, p. 18 (high level waste) [hereinafter cited as "Social and Economic Impacts"]; W. Rankin, "Public Attitudes Regarding Nuclear Wastes," Seattle: Battelle Memorial Institute, April, 1978.

- 7/ J. Murphy, "Understanding the Benefits of Sound Waste Facility Planning: Low Level Waste," unpublished paper, May 1, 1980, p. 1 [hereinafter cited as "Benefits of Sound Waste"].

- 8/ R. Cole et al, "Compensation for the Adverse Effects of Nuclear Waste Facilities," Seattle: Battelle Memorial Institute, July, 1978, p. 3 [hereinafter cited as "Adverse Effects"].
- 9/ See T. La Porte, "Nuclear Waste: Increasing Scale and Sociopolitical Impacts," Science, Vol. 201, p. 22, at 27 (July, 1978) [hereinafter cited as "Increasing Scale"].
- 10/ See generally D. Okrent, "Comment on Societal Risk," Science, Vol. 208, p. 372 (April, 1980). See also Increasing Scale, supra note 7, at 27.
- 11/ See Benefits of Sound Waste, supra note 5, at 2; Increasing Scale, supra note 7, at 22, 25.
- 12/ Increasing Scale, supra note 7, at 26.
- 13/ Public and Nuclear Waste, supra note 4, at 37-39.
- 14/ Id.
- 15/ Id.
- 16/ P. Meier et al, "Political Implications of Clustered Nuclear Siting," Energy Systems and Policy, 1979, at 17, pp. 21-22 [hereinafter cited as "Clustered Nuclear Siting"].
- 17/ "[T]he political acceptability of energy centers would in fact depend on a different kind of parochialism: the degree to which it can be demonstrated that the center would serve primarily the needs of consumers within the state in which it was to be located." Id. at 27.
- 18/ See Benefits of Sound Waste, supra note 4, at 2.

19/ Id. at 3.

20/ Id.

21/ Id. at 4-5. See generally Social and Economic Impacts, note 4 supra.

22/ See generally Social and Economic Impacts, note 4 supra.

23/ Id. See also Adverse Effects, supra note 6, at 41.

24/ For a general discussion of employment benefits, see Benefits of Sound Waste, note 4 supra; Increasing Scale, supra note 7, at 25; Adverse Effects, supra note 6, at 43.

25/ See Benefits of Sound Waste, note 4 supra; Adverse Effects, supra note 6, at 42.

26/ As Professor La Porte notes, determination of local impact is a necessary component in the development of any radioactive waste management system. See Increasing Scale, supra note 7, at 25-26.

27/ Concededly, the economic impact of a low level waste facility, standing alone, is arguably minimal. If tied with a federal project, however, the impact may be substantial indeed.

28/ For a discussion of this doctrine, see Note, 75 Yale L. J. 1053 (1966).

29/ Social and Economic Impacts, supra note 4, at 27.

30/ See generally id at 21-29.

31/ Benefits of Sound Waste, supra note 5, at 2.

32/ A list of toxic materials which could be used as a guide is contained in 49 C.F.R. § 172.

33/ The relevant section is 42 U.S.C. § 2208.

34/ A discussion of the Trident Submarine Program is set forth in Social and Economic Impacts, supra note 4, at 61.

35/ See generally Benson, "Bonus or Incentive Zoning: Legal Implications," 21 Syracuse L. Rev. 895 (1970).

36/ Dedication programs are discussed in (the crusty old case of) Agres v. City Council of the City of Los Angeles, 34 Cal. 2d 31, 207 P. 2d 1 (1949).

37/ 20 U.S.C. § § 236 et seq.

38/ Pub. L. 93-383, Aug. 22, 1974, 88 Stat. 633.

39/ 15 U.S.C. § § 631 et seq.

40/ 42 U.S.C. § § 4601 et seq.

41/ 40 U.S.C. § § 461 et seq.

42/ Pub. L. 91-648, Jan. 5, 1971, 84 Stat. 1909.

43/ 42 U.S.C. § § 3121 et seq.

44/ This memorandum, as well as the programs discussed above, are explored in Social and Economic Impacts, supra note 4, at 33-45.

Bibliography

- Alfers, S. D. "Accommodation or Preemption? State and Federal Control of Private Coal Lands in Wyoming," *Land and Water Law Review*, vol. 12, 1977, p. 73-130.
- Aspremont, Claude D', and Gevers, Louis. "Equity and the Informational Basis of Collective Choice," *The Review of Economic Studies*, vol. 44, no. 2, 1977, p. 199-210.
- Austin, M.; T. E. Smith; and J. Wolpert. "The Implementation of Controversial Facility-Complex Programs," *Geographical Analysis*, vol. 2, 1970, p. 315-329.
- Berchin, S. E. "Regulation of Land Use: From Magna Carta to Just Formulation," *UCLA Law Review*, vol. 23, June, 1976, p. 904-935.
- Berger, C. J. "A Reply to Professor Costonis," *Columbia Law Review*, vol. 76, June, 1976, p. 799-823.
- Berry, D. and G. Steiker. "The Concept of Justice in Regional Planning," *American Institute of Planners Journal*, vol. 40, no. 6, 1974, p. 414-421.
- Bureau of Reclamation and Institute of Applied Research, Anticipated Effects of Major Coal Development on Public Services: Costs and Revenues in Six Selected Counties. (Denver: Northern Great Plains Resources Program, 1975).
- Campbell, Kimberly A. Case Studies on Energy Impacts. No. 2: Controlling Boomtown Development in Sweetwater and Uinta Counties, Wyoming, (Washington, D.C.: National Association of Counties, 1976).
- Chotas, E. N. "Nuclear Power Plant Siting: Additional Reductions in State Authority?" *University of Florida Law Review*, vol. 28, Winter, 1976, p. 439-458.
- Columbia Law Review. "The Sovereign's Duty to Compensate for the Appropriation of Public Property," *Columbia Law Review*, vol. 67, 1967, p. 1083-1120.
- Cone, Bruce W. et al. An Analysis of Results of Federal Incentives Used to Stimulate Energy Production. Draft report submitted to the Division of Conservation and Solar Applications, U.S. Department of Energy, March, 1978, (E&-76-C-06-1830).
- Cornelison, J. W. "Socioeconomic Impacts and the National Environmental Policy Act of 1969," *Comments, Geo. Law Journal*, vol. 64, May, 1976, p. 1121-1141.

- Costonis, J. J. "Development Rights Transfer: An Exploratory Essay," Yale Law Journal, vol. 83, 1973, p. 75-128.
- Cox, Jack et al. Rapid Growth in Southwest Wyoming, (Washington, D.C.: U.S. Department of Agriculture and U.S. Department of Housing and Urban Development, 1976).
- Curry, Martha; Jill Goodnight; Marjorie Greene; Donna Merwin; and Randall Smith. State and Local Planning Procedures Dealing with Social and Economic Impacts from Nuclear Power Plants. Final report submitted to the U.S. Nuclear Regulatory Commission, Office of State Programs, Washington, D.C., January, 1977.
- Daley, J. B. "Financing Public Housing and Public Facilities in Energy Boom Towns," Rocky Mountain Mineral Law Institute, vol. 22, 1976, p. 47-144.
- Davis, T. P. "Citizens' Guide to Intervention in Nuclear Power Plant Siting: A Blueprint for Alice in Nuclear Wonderland," Environmental Law, vol. 6, Spring, 1976, p. 621-674.
- Duly, Robert J. "Balancing Public Purposes: A Neglected Problem on Condemnation", 1971, Albany Law Review, 35:769-781.
- DeVine, E. J. "The Treatment of Incommensurables in Cost-benefit Analysis," Land Economics, vol. 42, no. 3, 1966, p. 383-347.
- Fried, C. "Two Concepts of Interest: Some Reflections on the Supreme Court's Balancing Test," Harvard Law Review, vol. 76, p. 755-778. 1963.
- Gilmore, John and Mary K. Duff, Boomtown Growth Management: A Case Study of Rock Springs--Green River, Wyoming, (Boulder: Westview Press, 1975).
- Greenberg, M. R. and Hordon, R. M. "Environmental Impact Statements: Some Annoying Questions," American Institute of Planners Journal, vol. 40, no. 3, 1974, p. 164-175.
- Greenwood, R. "Energy Facility Siting in North Dakota," North Dakota Law Review, vol. 52, Summer, 1976, p. 703-728.
- Harvard Journal of Legislation, "An Act to Provide Compensation for Loss of Goodwill Resulting from Eminent Domain Proceedings," Harvard Journal of Legislation, vol. 3, 1966, p. 445-447; 450-451.
- Haughey, J. M. and Gallinger, J. L. "Legislative Protection of the Surface Owner in the Surface Mining of Coal Reserved by the U.S.," Rocky Mountain Mineral Law Institute, vol. 22, 1976, p. 145-202.

- Ingram, Helen. 1977, "Policy Implementation Through Bargaining: The Case of Federal Grants-in-Aid. Public Policy, 25(4): 499-526.
- Johnson, J. Z. "Equitable Remedies: An Analysis of Judicial Utilization of Neoreceiverships to Implement Large-scale Institutional Change," Wisconsin Law Review, vol. 76, 1976, p. 1161-1200.
- Kelly, J. R. "Planned and Unplanned New Town Impacts: Applying a Method," Environment and Behavior, vol. 7, no. 3, 1975, p. 330-357.
- Kohn, D. "Interstate Public Use: An Issue Occurring in Condemnation for Interstate Power Lines," North Dakota Law Review, vol. 52, Spring, 1976, p. 563-583.
- Lamm, R. D. "States Rights vs. National Energy Needs," Natural Resources Law, vol. 9, 1976, p. 1-80.
- Leed, R. M. "National Environmental Policy Act of 1969: Is the Fact of Complying a Procedural or Substantive Question?" Santa Clara Law, vol. 15, Winter, 1975, p. 303-325.
- Maine Law Review, "Special Benefits and Just Compensation: Ensuring Fair Treatment of Landowners in Partial Taking Cases," Maine Law Review, vol. 27, 1975, p. 279-304.
- Mandelker, D. R. "Inverse Condemnation: The Constitutional Limits of Public Responsibility," Wisconsin Law Review, vol. 3, 1966, p. 3-57.
- Margolis, Julius (ed.). "The Analysis of Public Output," (Table of Contents & Introduction), National Bureau of Economic Research, New York: Distributed by Columbia University Press, 1970.
- Michelman, Frank I. "Property, Utility, and Fairness: Comments on the Ethical Foundations of 'Just Compensation' Law," Harvard Law Review, vol. 80, April 1967, no. 6, p. 1165-1258.
- Mumphrey, A. J.; J. E. Seley, and J. Wolpert. "A Decision Model for Locating Controversial Facilities," Journal of the American Institute of Planners, Nov. 1971, p. 397-402.
- Mumphrey, A. J. and J. Wolpert. "Equity Considerations and Concessions in the Siting of Public Facilities, Economic Geography, vol. 49, April 1973, p. 109-121.
- Nelkin, D. "The Political Impact of Technical Expertise," Social Studies of Science, vol. 5, no. 1, 1975, p. 35-54.

- O'Hare, Michael. 1977, "Not on My Block You Don't," Facility Siting and the Strategic Importance of Compensation, Public Policy, 25(4): 407-458.
- O'Hare, Michael and Debra R. Sanderson. "Fair Compensation and the Boomtown Problem," reprint, Urban Law Annual, 14(1977): 101-133.
- Perrin, D. "Eminent Domain--Evidence of the Rupture of a Gas Pipeline Occurring After the Taking of Land is Admissible to Prove 'Fear' as an Element of Damages if the Condemnor Places the Issue of Fear into the Proceedings," Heddin v. Delhi Gas Pipeline Co., Texas Law Review, vol. 7, Spring, 1976, p. 738-744.
- Pinsky, D. E. "Relocation Payments in Urban Renewal: More Just Compensation," New York Law Forum, vol. 80, 1965, p. 80-102.
- Pressman, Jeffrey L. and Aaron B. Wildarsky. "Implementation," (Berkeley: University of California Press, 1973).
- Reynolds, K. J. "Updating Eminent Domain for Environmental Control," Florida State University Law Review, vol. 4, February, 1976, p. 24-49.
- Rescher, Nicholas. 1972. "Welfare: The Social Issues in Philosophical Perspective," Pittsburgh: University of Pittsburgh Press.
- Roberts, F. "Legal Considerations in Nuclear Power Plant Siting in the Light of the Energy Reorganization Act of 1974," New England Law Review, vol. 10, Spring, 1975, p. 305-323.
- Roberts, Paul E. "Benefit-Cost Analysis: Its Use (Misuse) in Evaluating Water Resource Projects," American Business Law Journal, Vol. 14, Spring, 1976, p. 76-84.
- Robinson, N. A. "Urban Environmental Law: Emergent Citizens' Rights for the Aesthetic, the Spiritual, and the Spacious," Fordham Urban Law Journal, vol. 4, Spring, 1976, p. 467-493.
- Sanderson, Debra R. 1978, "Energy Impacts Project: Rationales for Compensation in Energy Facility Siting Processes," Discussion paper no. 11 prepared for the U.S. Department of Energy, Washington, D.C. (Contract No. EA-76-A-001-2295 #35).
- Shields, Mark A. "Social Impact Studies: An Expository Analysis," Environment and Behavior, vol. 7, no. 3, Sept. 1975, p. 265-284.

- Strong, D. H. and E. S. Rosenfield. "Ethics or Expediency: An Environmental Question," *Environmental Affairs*, vol. 5, Spring, 1976, p. 255-270.
- Susskind, Lawrence and Michael O'Hare. 1977. "Managing the Social and Economic Impacts of Energy Development," Boston: Laboratory of Architecture and Planning, Massachusetts Institute of Technology.
- Thompson, D. "Land Use Allocation and the Problem of Wipeouts from Private and Governmental Land Uses: A Suggested Rule," *Environmental Law*, vol. 6, Winter, 1976, p. 431-452.
- Wharton, J. C. "Judicially Enforceable Substantive Rights under NEPA," *University of San Francisco Law Review*, vol. 10, Winter, 1976, p. 415-439.
- Yale Law Journal. "Just Compensation and the Public Condemnee," *Yale Law Journal*, vol. 75, 1966, p. 1053-1058.

NGA Low-Level Radioactive Waste Disposal Task Force
Model Congressional Consent Compact Bill

Granting the consent of Congress to interstate compacts for the establishment of regional low-level waste disposal facilities, authorizing such facilities to exclude waste generated outside the region, and to amend the Atomic Energy Act of 1954.

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

That the consent of Congress is hereby given to each of the several States, the territories, and possessions of the United States, and the District of Columbia, to enter into any agreements or compacts:

1) for the establishment of regional disposal facilities for low-level radioactive waste, as defined in Section 11dd. of the Atomic Energy Act of 1954; and

2) for cooperation in other areas of low-level radioactive waste management.

Sec. 2. Congress hereby declares that low-level radioactive waste can be most safely and efficiently managed on a regional basis. Therefore compacts or agreements made pursuant to this Act may restrict the use of regional disposal facilities to the disposal of low-level radioactive waste generated within the region. No such restriction shall be construed to be an improper burden on, or discrimination against, interstate commerce.

Sec. 3. Section 11 of the Atomic Energy Act of 1954 is amended by adding the following new subsection at the end thereof:

"dd: The term 'low-level radioactive waste' means waste containing radioactive nuclides emitting primarily Beta and/or Gamma radiation, and containing less than ten manocuries per gram of any transuranic elements and which is not spent fuel or high level waste."

SECTION-BY-SECTION ANALYSIS

Section 1. Compact Consent.

This section grants the consent of Congress to regional low-level waste compacts. Such consent is required by Article 1, Section 10, Clause 3 of the U. S. Constitution which states:

"No state shall, without the consent of Congress..., enter into any agreement or compact with another state, or with a foreign power."

Such consent may be expressed in many forms: by statute or by resolution, in advance of, or subsequent to, action by the states. Three examples of advance compact consent legislation are attached. This advance consent approach eliminates the need to submit each individual regional compact to Congress, and thus allows for earlier implementation. However, each compact would be subject to challenge on the grounds it went beyond the scope of the Congressional consent. Therefore, clause two (authorizing the compacts to cover all aspects of waste management) was included to give a broad scope to the grant of consent.

Section 2. Exclusivity Authority.

This section authorizes the regional compacts to exclude waste generated outside the region from disposal at the regional facility.

The U. S. Supreme Court has held that a state law banning the use of in-state land-fills for disposal of out-of-state solid waste constituted discrimination against interstate commerce, and was thus invalid under the Commerce Clause of the U. S. Constitution (Article 1, Section 8, Clause 3), City of Philadelphia v. New Jersey, 437 U.S. 617, 98 S. Ct. 2531, 5 L.Ed.2d 475 (1978). Although it could be forcefully argued that a similar ban on the importation of low-level waste involves sufficient additional health and safety considerations to distinguish it from the solid waste ban, the legal status of any such exclusivity provisions is in doubt following the City of Philadelphia decision.

Section two would remove this doubt as to the legality of exclusivity provisions in regional low-level waste compacts. Congress, under its Commerce power, may authorize states to act in a manner which would otherwise violate the Commerce Clause. The U. S. Supreme Court has held that this Congressional power extends to validating state action which discriminates against interstate commerce in favor of local trade. Prudential Insurance

Company v. Benjamin, 328 U.S. 408, 66 S. Ct. 1142, 90 L.Ed. 1342 (1946).¹ Thus, Section two would foreclose the possibility of a City of Philadelphia-type challenge. By allowing such exclusivity provisions Congress would enable the states themselves to bring pressure to bear on other states to take action toward forming new regional sites. This would obviate the need for federal coercion in this area.

Section 3. Definition of Low-level Waste.

Low-level waste is not presently defined in the Atomic Energy Act of 1954. Some definition is required to delineate the subject matter of the compacts authorized in this bill. The definition contained in Section three was suggested by E.G.&G.-Idaho, Inc. in a draft model regional compact.

1. That case involved the McCarren Act, 15 U.S.C. §§ 1101-1015. In response to a Supreme Court decision which cast doubt on the states' authority to tax and regulate interstate insurance companies, Congress included a provision in the McCarren Act which removed interstate commerce objections to such state action. The court upheld this provision and applied it to validate a South Carolina tax on foreign insurance companies, even though there was no corresponding tax on South Carolina companies. Though previous decisions of the Court indicated such a tax would run afoul of the Commerce Clause as a discrimination against interstate commerce, the court held the McCarren Act rendered those decisions irrelevant, stating:

"Whenever Congress' judgment has been uttered affirmatively to contradict the Court's previously expressed view that specific action taken by the states in Congress' silence was forbidden by the Commerce Clause, this body has accomodated its previous judgment to Congress' expressed approval."

328 U.S. at 425. Other examples of analogous situations are collected at 328 U.S. 433, note 43.

EXAMPLES OF ADVANCE COMPACT CONSENT LEGISLATION

1. Crime Prevention Compacts (1934) 48 Stat. 909

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the consent of Congress is hereby given to any two or more States to enter into agreements or compacts for cooperative effort and mutual assistance in the prevention of crime and in the enforcement of their respective criminal laws and policies, and to establish such agencies, joint or otherwise, as they may deem desirable for making effective such agreements and compacts.

Sec. 2. The right to alter, amend, or repeal this Act is hereby expressly reserved.

Approved June 6, 1934.

2. Highway Safety Compacts (1958) 72 Stat. 635, Public Law 85-684

[H.J.Res. 221]

Joint Resolution granting the consent of Congress to the several States to negotiate and enter into compacts for the purpose of promoting highway traffic safety.

Whereas from year to year there has been an increase in the number of accidents and deaths on the streets and highways of the United States; and

Whereas this increase in highway traffic deaths and accidents presents a serious national problem; and

Whereas to aid in meeting this problem there is need for the development of nationwide highway traffic safety programs, including, but not limited to, establishment of uniform traffic laws, improvement in driver education and training, and coordination of traffic enforcement; and

Whereas cooperative effort and mutual assistance on the part of the States offers the greatest hope of satisfactorily dealing with this national problem: Therefore be it

Resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That:

The consent of Congress is hereby given to any two or more of the several States to enter into agreements or compacts—

(1) for cooperative effort and mutual assistance in the establishment and carrying out of traffic safety programs, including, but not limited to, the enactment of uniform traffic laws, driver education and training, coordination of traffic law enforcement, research into safe automobile and highway design, and research programs of the human factors affecting traffic safety, and

(2) for the establishment of such agencies, joint or otherwise, as they deem desirable for the establishment and carrying out of such traffic safety programs.

Approved August 20, 1958.

3. Airport Compacts (1959) 73 Stat. 333, Public Law 86-154

[S. 2183]

An Act granting the consent of Congress to interstate compacts for the development or operation of airport facilities.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That:

The consent of Congress is hereby given to each of the several States to enter into any agreement or compact, not in conflict with any law of the United States, with any other State or States for the purpose of developing or operating airport facilities. The right to alter, amend, or repeal this Act is expressly reserved.

Approved August 11, 1959.

The National Governors' Association, founded in 1908 as the National Governors' Conference, is the instrument through which the governors of the fifty states and the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, and the Northern Mariana Islands collectively influence the development and implementation of national policy and apply creative leadership to state problems. The National Governors' Association membership is organized into eight standing committees on major issues: Agriculture; Criminal Justice and Public Protection; Executive Management and Fiscal Affairs; International Trade and Foreign Relations; Human Resources; Natural Resources and Environmental Management; Community and Economic Development; and Transportation, Commerce, and Technology. Subcommittees that focus on principal concerns of the Governors operate within this framework. The Association works closely with the Administration and the Congress on state-federal policy issues from its offices in the Hall of the States in Washington, D.C. Through its Center for Policy Research, the Association also serves as a vehicle for sharing knowledge of innovative programs among the states and provides technical assistance to Governors on a wide range of issues.

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