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COMPTROLLER GENERAL OF THE UNITED STATES
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The Honorable John D. Dingell
Chairman, Subcommittee on Energy
and Power
Committee on Interstate and
Foreign Commerce
House of Representatives

HDE 02303

Dear Mr. Chairman:

This is in response to your recent request for our opinion on the legal authority of the Governor ~~of South Carolina, or of any State official,~~ a State to impose limitations on the use of a licensed, privately owned, low-level nuclear waste burial facility. You refer to a letter from the Honorable Richard W. Riley, Governor of South Carolina, to Chairman Joseph M. Hendrie of the Nuclear Regulatory Commission, regarding the Governor's action in imposing certain limitations on the use of such a facility at Barnwell, South Carolina. You ask that we review this letter and provide a report encompassing the applicability of the Atomic Energy Act of 1954, as amended, as well as provisions of the applicable license, regulations and State statutes under which the license may have been issued.

You ask us to consider specifically whether there is any legal basis for the position that:

"1. The Chem Nuclear facility at Barnwell, South Carolina, or any waste burial facility, was licensed to handle wastes from either (i) a particular region of the country, or (ii) from a specific geographic area.

"2. The Governor or any state official has the authority to establish monthly or annual limitations on the volume of waste received by such a facility, and if so, what criteria is used to establish such a limitation?

"3. The Governor or any state official has the authority to exclude waste which would meet the criteria which the facility was designed to accept from specific plants or a particular category of plants.

ID- Three Mile Island

Letter 505773

"If any of the above mentioned authorities are based upon the Governor's exercise of a state law in licensing a facility under the State Agreement Program, I ask that you provide an opinion as to how such actions comply with Section 274d(2) of the Atomic Energy Act of 1954, as amended, which requires that a state program be compatible with the Commission's program for the regulation of such materials."

Governor Riley's letter to Chairman Hendrie, dated April 19, 1979, referred to the nuclear reactor incident on March 28, 1979, at the Three Mile Island (TMI) commercial nuclear power facility located in Pennsylvania. The Governor said:

"We recognize, as you do, that a substantial amount of radioactive waste will be generated from the decontamination process at Three Mile Island (TMI); furthermore, that potential unscheduled shut-downs of reactors to assess systems and incorporate modifications based on the TMI experience could also produce quantities of low-level waste in excess of normal amounts for the industry.

"As you are aware, we have in our State the only operating commercial low-level burial facility in the eastern half of the United States. I have met with my staff and Mr. Heyward Shealy of the South Carolina Department of Health and Environmental Control to review the current status of waste burial activities at the Chem-Nuclear facility in Barnwell, South Carolina.

"Currently we are receiving approximately 90% of the low-level waste generated by operating power reactors, fuel fabricators, and institutional applications in this country. What was intended to be a regional facility to handle the low-level waste for the southeastern and southern region of the country has, in fact, become a 'national' facility for virtually all the low-level commercial waste east of the Rocky Mountains. Finally, it is anticipated that for the first six months of this calendar year, shipments to the Chem-Nuclear facility will meet or exceed the monthly average (200,000

cubic feet/month) based on our total annual volume limitation. Based on these considerations, I have concluded that our volume limitations for the Chem-Nuclear facility should be lowered. Under these circumstances, it is my opinion that our waste management program can not accomodate the excess wastes from TMI or from any of the unscheduled reac[illegible] shut-downs."

Regulatory Background

The Nuclear Regulatory Commission (NRC) was established as an independent regulatory commission under Title II (section 201) of the Energy Reorganization Act of 1974, Pub. L. No. 93-438, 88 Stat. 1233, 1242, October 11, 1974 (42 U.S.C. § 5841). NRC received the licensing and related regulatory functions of the Atomic Energy Commission (AEC), which was abolished (sections 104(a), 201(f), 42 U.S.C. §§ 5814(a) and 5841(f).

Under section 161b of the Atomic Energy Act of 1954, as amended (42 U.S.C. § 2201(b)), NRC, as successor to AEC, is authorized to:

> "establish by rule, regulation, or order, such standards and instructions to govern the possession and use of special nuclear material, source material, and byproduct material as the Commission may deem necessary or desirable to promote the common defense and security or to protect health or to minimize danger to life or property."

The Atomic Energy Act of 1954 was amended (by section 1 of Pub. L. No. 86-373, September 23, 1959, 73 Stat. 688), to add new section 274 to the Act, to provide for cooperation with States (42 U.S.C. § 2021). This section was amended in part by section 204 of the Uranium Mill Tailings Radiation Control Act of 1978, Pub. L. No. 95-604, November 8, 1978, 92 Stat. 3021, 3036. Section 2021 of Title 42 currently provides in pertinent part as follows:

> "(b) Except as provided in subsection (c) of this section, the Commission is authorized to enter into agreements with the Governor of any State providing for discontinuance of the regulatory authority of the Commission under subchapters V, VI, and VII of this chapter, and section 2201 of this title, with respect to any one or more of the following materials within the State--

"(1) byproduct materials as defined in section 2014(e)(1) of this title;

"(2) byproduct materials as defined in section 2014(e)(2) of this title;

"(3) source materials;

"(4) special nuclear materials in quantities not sufficient to form a critical mass.

"During the duration of such an agreement it is recognized that the State shall have authority to regulate the materials covered by the agreement for the protection of the public health and safety from radiation hazards."

* * * * *

"(d) The Commission shall enter into an agreement under subsection (b) of this section with any State if--

* * * * *

"(2) the Commission finds that the State program is in accordance with the requirements of subsection (o) of this section and in all other respects compatible with the Commission's program for the regulation of such materials, and that the State program is adequate to protect the public health and safety with respect to the materials covered by the proposed agreement.

* * * * *

"(j) The Commission, upon its own initiative after reasonable notice and opportunity for hearing to the State with which an agreement under subsection (b) of this section has become effective, or upon request of the Governor of such State, may terminate or suspend all or part of its agreement with the State and reassert the licensing and regulatory authority vested in it under this chapter, if the Commission finds that (1) such termination or suspension is required to protect the public health and safety or (2) the State has not complied with one or more of the requirements of this section. The Commission shall periodically review such agreements and actions taken by the States under the agreements to ensure compliance with the provisions of this section."

An agreement, effective September 15, 1969, between AEC and the Governor on behalf of the State of South Carolina was executed pursuant to section 274 . It recited AEC's finding that the State program for the regulation of materials covered by the agreement was compatible with the Commission's program for the regulation of such materials and was adequate to protect the public health and safety. The agreement discontinued the regulatory authority of AEC in the State of South Carolina for byproduct materials, source materials and special nuclear materials in quantities not sufficient to form a critical mass, as provided in section 274.

The agreement provides in pertinent part as follows:

"Article V. The [Atomic Energy] Commission will use its best efforts to cooperate with the State and other agreement States in the formulation of standards and regulatory programs of the State and the Commission for protection against hazards of radiation and to assure that State and Commission programs for protection against hazards of radiation will be coordinates and compatible. The State will use its best efforts to cooperate with the Commission and other agreement States in the formulation of standards and regulatory programs of the State and the Commission for protection against hazards of radiation and to assure that the State's program will continue to be compatible with the program of the Commission for the regulation of like materials. The State and the Commission will use their best efforts to keep each other informed of proposed changes in their respective rules and regulations and licensing, inspection, and enforcement policies and criteria, and to obtain the comments and the assistance of the other party thereon.

* * * * *

"Article VII. The Commission, upon its own initiative after reasonable notice and opportunity for hearing to the State, or upon request of the Governor of the State, may terminate or suspend this Agreement and reassert the licensing and regulatory authority vested in it under the Act if the Commission finds that such termination or suspension is required to protect the public health and safety.

"Article VIII. This agreement shall become effective on September 15, 1969, and shall remain in effect unless and until such time as it is terminated pursuant to Article VII."

State law in South Carolina provides for agreements to take over certain activities of the Federal Government as follows:

"(a) The Governor, on behalf of the State, is authorized to enter into agreements with the Federal Government providing for discontinuance of certain of the Federal Government's activities with respect to radiation sources and the assumption thereof by the State toward the end of instituting and maintaining a regulatory program compatible with the standards and regulatory programs of the Federal Government and consonant insofar as possible with those of other states." South Carolina Code Annotated, § 13-7-60 (1976). S.C.

Under State law, the Department of Health and Environmental Control is designated as the agency of the State which shall be responsible for the control and regulation of radiation sources. This statute further provides in pertinent part for the following duties of the Department:

"(2) Develop and conduct programs for the control, surveillance, and regulation of radiation sources, not inconsistent with those prescribed by the U. S. Atomic Energy Commission, and with due regard for controls and regulations in effect in other states.

"(3) Formulate, adopt, promulgate, and repeal rules and regulations relating to the control of ionizing radiation.

"(4) Issue such orders or modifications thereof as may be necessary in connection with proceedings under this article.

* * * * *

"(8) * * * The Department is authorized to provide, by rule and regulation, for the licensing or registration of radiation sources or devices or equipment utilizing such sources. Such rules or regulations shall provide for amendment, suspension, or revocation of licenses. * * *" Id., § 13-7-40.

Emergency powers of the Department of Health and Environmental Control are provided as follows:

"Whenever the Department finds that an emergency, as hereinabove defined, exists requiring immediate action to protect the public health and safety the Department may, without notice or hearing, issue an order reciting the existence of such emergency and requiring that such action be taken as is necessary to meet the emergency. Notwithstanding any other provision of law, such order shall be effective immediately.

"Any person to whom such order is directed shall comply therewith immediately, but on application to the Department shall be afforded a hearing within thirty days. On the basis of such hearing, the emergency order shall be continued, modified or revoked within thirty days after such hearing." Id., § 13-7-50.

A regulation of the Department provides that a specific license authorizing a proposed activity may contain such conditions and limitations as the Department deems appropriate or necessary. Further, the Department may incorporate at time of issuance or thereafter additional requirements and conditions with respect to the licensee's receipt, possession, use, and transfer of radioactive material subject to the rules as it deems appropriate or necessary in order to protect health or to minimize danger to life and property. Rules and Regulations of South Carolina, §§ 61-63, RHA 2.9 (1970). Additionally, the regulations state that "Each license issued pursuant to these regulations shall be subject to all the provisions of the Act [1976 Code, sections 13-7-10 to 13-7-80], and to all rules, regulations, and orders of the Department, now or hereafter in effect" (Id., RHA 2.10) and that the terms and conditions of all licenses are subject to amendment, revision or modification. Id., RHA 2.19. Also, any license may be suspended or revoked because of amendments to the Act or because of rules, regulations and orders issued by the Department. Id.

The Bureau of Radiological Health (a unit of South Carolina's Department of Health and Environment Control) issued the current radioactive material license for Chem-Nuclear Systems, Inc. (Chem-Nuclear), Barnwell, South Carolina, on December 28, 1978. It expires on December 31, 1981. It is specifically subject to applicable present and future regulations of the Department and to the conditions stated therein.

The license provides that radioactive material, except special nuclear material, may be stored and disposed of by burial at the

site (Condition 5). "Waste shall be received and disposed of at a rate of 2.1×10^6 cubic feet per year and shall at no time exceed 2.4×10^6 cubic feet per year total for all waste received. This condition shall become effective November 1, 1978." (Condition 19.) The license also provides that "Radioactive waste containing transuranic elements shall not be buried at the site * * * unless the concentration of such elements is equal to or less than 10 nanocuries per gram of Radioactive waste." (Condition 21.)

Factual Background

In an article entitled "Why South Carolina Said No", which appeared in the Washington Post on April 23, 1979, Governor Riley explained his letter to Chairman Hendrie. After indicating that his State is now receiving up to 90 percent of the low-level commercial nuclear waste generated in the United States, he said that:

> "This situation was illustrated dramatically for the citizens of our state by the Pennsylvania nuclear accident. Within a week after the incident occurred, plans were underway to dispatch the first of what would have become a continuing convoy of trucks bringing waste to be buried in our state.
>
> "Preliminary estimates indicated that the disabled reactor would generate waste amounting to almost 50 percent of the total volume our state received in all of 1978.
>
> "It was for this reason that I wrote last week to the Chairman of the Nuclear Regulatory Commission indicating that South Carolina would not accept any of the waste from the damaged Three Mile Island unit."

In order to determine the circumstances of the refusal of waste from the damaged TMI unit, we informally contacted NRC and State officials, and senior employees of Chem-Nuclear. We were told that prior to the accident at TMI Unit 2, routine nuclear wastes were received from this unit and from Unit 1, some of it pursuant to a contract between Metropolitan Edison, which manages TMI, and Chem-Nuclear, and some based on the willingness of the Barnwell facility to accept otherwise proper shipments of nuclear waste from any source according to an established fee schedule.

We were told that two truckloads of waste, possibly including those resulting from the accident at TMI Unit 2, were in the course of being transported by truck to the Barnwell waste disposal site before the Governor's statement to NRC. During this time there was a telephone conversation which included Metropolitan Edison officials, the Chem-Nuclear Vice-President in charge of the facility, and the Chief of the Bureau of Radiological Health of the South Carolina Department of Health and Environmental Control. According to accounts, Metropolitan Edison did not know the exact contents of the shipments and therefore could not certify that they met Barnwell's disposal standards; in particular, that the waste did not exceed the limit, set by Chem-Nuclear's license, of 10 nanocuries of transuranic elements per gram for radioactive waste.

As a result of the conversation, the shipment was rerouted to the Washington State facility which can handle transuranic waste. The next day, the Chem-Nuclear manager was told by the Chief of the Bureau of Radiological Health that no wastes were to be accepted from Unit 2. This order is still in effect. Shipments continue to be accepted from the undamaged TMI Unit 1. According to the Bureau Chief, there have been no further orders, regulations, amendments to license, etc. relating to the acceptance of nuclear waste at the Barnwell site. He said that later analysis at the Oak Ridge, Tennessee, Federal nuclear facility showed that material from the #2 Unit did exceed Barnwell's license limit.

According to the Chief of the Bureau of Radiological Health, there is at present no monthly restriction at Barnwell on the reception of waste, although Chem-Nuclear has tried to even the flow at an average of about 1/12th of the yearly maximum for each month. He said that he had suggested the use of other waste disposal sites, in Washington State and Nevada, because of the increased volume of wastes being generated. However, the Chem-Nuclear license's annual maximum restriction is unchanged.

Prior to the November 1978 amendment of the Barnwell operating license, there was a monthly limit of 135,000 cubic feet. This amount was increased to 2.4 million cubic feet per year (200,000 cubic feet monthly rate) because of an increase in the utilization factor from 4.5 to 7.5, applicable to space in each trench used for storage and also because of the purchase of 4" additional acres.

The yearly amount is based on projected use of the site until about 1993. At that time there will have been accumulated a fund of about $21 million for perpetual care. This amount is derived from the burial fees. An economic study which was done 5 years ago is

said to have shown that spreading out the utilization of the site over a number of years in this fashion would provide adequate funds for its care after the site was closed.

Analysis

Under section 274 of the Atomic Energy Act, as amended, AEC, and NRC as successor of AEC, is empowered to enter into agreements with individual States providing for the discontinuance of the Commission's regulatory authority regarding byproduct material, source materials and special nuclear materials in quantities not sufficient to form a critical mass. This section was "intended to encourage States to increase their knowledge and capacities, and to enter into agreements to assume regulatory responsibilities over such materials." Further, "The intent is to have the material regulated and licensed either by the Commission, or by the State and local governments, but not by both." S. Rep. No. 870, 86th Cong., 1st. Sess. 52 (1959). The agreement, effective September 15, 1969, between AEC and the Governor of South Carolina, recited the required finding and discontinued the Commission's authority in the State of South Carolina under the circumstances specified therein.

South Carolina now has exclusive regulatory authority over the materials covered by the agreement. The current radioactive material license issued by the Department's Bureau of Radiological Health to Chem-Nuclear for the Barnwell site, on December 28, 1978, is specifically subject to conditions imposed by the Department. These conditions include an annual limitation of 2.4 million cubic feet for waste received at the site and a prohibition of storage of radioactive waste containing a concentration of transuranic elements in excess of 10 nanocuries per gram.

Based on available information, we believe that the oral order of the Chief of the Bureau of Radiological Health to Chem-Nuclear, denying access to the Barnwell facility for waste from the damaged TMI Unit 2, as well as the rerouting of two truckloads of waste from TMI, were based on the inability of TMI officials to certify that the 10 nanocuries limit for transuranic elements was not exceeded. This appears to be entirely consistent with the license requirement and State powers in the circumstances. We have been informally advised that NRC does not consider such action as incompatible with the Commission's regulatory program.

Based on the foregoing, your specific questions are answered below. Formal comments were requested from NRC. However, to avoid delaying our response to your inquiry, it was necessary to prepare our reply without waiting for NRC's response, which we have not yet received.

Question 1. There are several radioactive waste sites located in various areas of the country which are no longer accepting waste. However, the Barnwell Chem-Nuclear facility's license does not limit the reception of waste to that originating in a specific region or geographic area. We are unaware of such a limitation for either of the other two operating sites, Nevada and Washington.

Governor Riley's position as we understand it, is not that Barnwell is not licensed to accept wastes from certain regions or areas. Rather, he refers to geographic distribution to point out that, in his view, South Carolina cannot accommodate at Barnwell the volume of nuclear wastes from the large area it now serves in addition to excess wastes from unscheduled reactor shut-downs.

Question 2. Under the agreement between AEC and South Carolina which established the exclusive authority of the State to regulate certain radioactive materials in order to protect the public health and safety, it appears that the State has authority to impose annual or monthly limits on the receipt of waste, if these limits are reasonably related to the public health and safety or otherwise consistent with the general police powers of the State.

The limitations now in effect appear consistent with the South Carolina Department of Health and Environmental Control's legal authority to regulate the disposal site. The annual limitation, according to State officials, was designed to use the site's storage capacity most efficiently in terms, as described above, of sufficient funds for perpetual care of the facility after additional storage ceases. Certainly, there is an interest, in terms of protecting the public health and safety, in providing a means for perpetual care of the Barnwell facility.

Question 3. It would appear that the Governor or any other State official would not have authority to exclude waste meeting the criteria for which the disposal facility was designed, solely because of its origin at a specific plant or category of plants, in the absence of a reasonable relationship between the exclusion and the public health and safety. (The State does have authority, where the public health and safety are concerned, to take any necessary action in an emergency (§§ 13-7-50 South Carolina Code, supra), as well as to modify licenses as it deems necessary (§§ 61-63, RHA 2.9, South Carolina Rules and Regulations, supra.)) The Chem-Nuclear license issued by the State of South Carolina contains no limitation regarding the origin of waste from a specific plant or category of plants. As discussed below, the basis for the exclusion which took place was the possibility, later confirmed, that the waste exceeded the limitation in the license on concentrations of transuranic elements.

Your final question is concerned with how any of the State actions referred to in the prior three questions would relate to section 274d(2) of the Atomic Energy Act, as amended, which as a prerequisite for agreement to discontinuance of NRC's regulatory authority in favor of State regulation, requires that a State program must be found compatible with the Commission's program for the regulation of such materials.

In accordance with section 274d(2), the 1969 agreement between AEC and the Governor of South Carolina was based on the Commission's finding of compatibility. In the event of changed circumstances, section 274j of the Atomic Energy Act, as amended, permits NRC on its own initiative, after reasonable notice and opportunity for a hearing, to unilaterally terminate or suspend all or part of the State agreement and to reassert its licensing and regulatory authority. This action is to be supported by a finding that it is required to protect the public health and safety or that the State has not complied with the one or more of the requirements of section 274. Senate Report No. 870, previously cited, states that this provision "represents a reserve power to be exercised only under extraordinary circumstances." (p. 55.)

Thus, whether the State's exercise of authority is compatible with NRC's program is a matter for NRC to determine, in the first instance. As we said, we have not had the benefit of NRC's views in responding to your inquiry. However, we find no basis, in the present record, to conclude that the State acted in a manner incompatible with NRC's program for regulation of these materials. Specifically, as to the annual limitation on the volume of waste received at the Barnwell facility, it does not appear that this limitation contravenes any NRC regulatory program provisions or is otherwise incompatible with the Commission's program.

In the Governor's explanation of his action in the Washington Post, he referred to the letter to the Chairman of NRC as indicating that South Carolina would not accept any of the waste from the damaged TMI Unit. The Governor's remarks in the Post and the letter refer to anticipated shipments in the first 6 months of this calendar year that would meet or exceed the monthly average of 200,000 cubic feet based on the total annual volume limitation and also to preliminary estimates that the disabled reactor would generate waste amounting to almost 50 percent of the total volume that the Barnwell facility received in 1978.

However, notwithstanding the Governor's statements, it appears that the denial of the receipt of waste from damaged TMI Unit 2 was based either on the failure to certify that such waste did not exceed the transuranic concentration limit for the facility or on the fact that such waste did exceed the stated limit. Such a limitation in a license does not appear to us to be incompatible with NRC programs.

Therefore, under the present State restriction applicable to the Barnwell facility, it appears that waste from the damaged TMI reactor would be acceptable if it otherwise met the license requirements, including annual volume and concentration of transuranics.

However, in the event that NRC believes that the current restrictions or possible future changes in the Barnwell, South Carolina site's operating license are incompatible with its programs, it may proceed under the criteria established in section 274j to reinstitute its authority in this regard in the State of South Carolina.

We hope that our comments have been of assistance to you.

Sincerely yours,

MILTON SOCOLAR

Acting Comptroller General
of the United States