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Below Regularoy Concern: The Nuclear Regulatory Commission's Solution for Radioactive Waste Management

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NOTES

BELOW REGULATORY CONCERN: THE NUCLEAR REGULATORY COMMISSION'S SOLUTION FOR RADIOACTIVE WASTE MANAGEMENT

INTRODUCTION

On July 3, 1990, the Nuclear Regulatory Commission (NRC) announced that it had approved a policy for deregulating categories of radioactive materials.[1] This policy, created in response to the Low Level Waste Policy Amendments Act,[2] is entitled Below Regulatory Concern (BRC). BRC permits certain types of radioactive materials to be dumped in ordinary municipal landfills.[3] It allows the public to use the facilities and grounds of decommissioned, but not necessarily cleaned, nuclear power plants without restriction.[4] In addition, it permits higher amounts of radioactive substances to be recycled in consumer products.[5] Finally, the NRC contends that its new policy preempts any state regulation that may set more stringent standards for regulatory control of radioactive waste.[6]

Under BRC, up to thirty percent of radioactive waste from commercial nuclear power plants could be disposed of in landfills.[7] While some states have gone along with this policy, others have passed laws in reaction to the NRC's solution to the radioactive waste disposal problem.[8] Maine, Minnesota, Vermont, Iowa, and Pennsylvania have passed laws that ban this disposal practice.[9]

Public reaction to this policy has also been unfavorable.[10] Public Citizen, an environmental watchdog group; twenty-eight other groups; and the state of Maine have filed suit against the NRC charging that the policy violates the Administrative Procedure Act[11] by not giving the public an opportunity to comment on the draft of the policy.[12] The policy is also being challenged on the theory that it violates the Low Level Radio-

1. Below Regulatory Concern, Policy Statement, 55 Fed. Reg. 27,522 (1990).
2. The Low Level Radioactive Waste Policy Amendments Act of 1985, Pub. L. No. 99-240, 99 Stat. 1842 (1986) (codified at 42 U.S.C. §§ 2021b-2021j (1988)).
3. *Id.*
4. *Id.*
5. *Id.*
6. 42 U.S.C. §§ 2021b-2021j (1988).
7. *See* 136 CONG. REC. S12170 (daily ed. July 10, 1990) (statement of Sen. Mitchell); *see also* Becker, *Deregulating Radioactive Waste Disposal: A Status Report* 3 (1990).
8. 136 CONG. REC. S12170 (daily ed. July 10, 1990) (statement of Sen. Mitchell).
9. *See supra* note 6.
10. Public Citizen v. NRC, 901 F.2d 147 (D.C. Cir. 1990).
11. 5 U.S.C. § 551 (1988).
12. Public Citizen v. NRC, 901 F.2d 147 (D.C. Cir. 1990).

active Waste Policy Amendments Act[13] by reducing costs of radioactive waste disposal at the expense of public health[14] and by depriving states of the right, granted by statute, to determine how to dispose of wastes generated within its borders.

Several members of Congress have attacked the BRC policy,[15] as an "invitation for abuse by unscrupulous operators, who could dispose of highly radioactive waste in landfills."[16] They maintain that implementation would put a heavy burden on landfill owners and local governments who would be forced to measure every load of garbage for radiation levels.[17] They also contend that "state and local officials could be faced with the dilemma of trying to clean up a site that the NRC has declared clean, but which the Environmental Protection Agency and public believe is still hazardous."[18]

This Note argues that the NRC exceeded its authority in adopting the Below Regulatory Concern (BRC) Policy Statement. Part I presents a chronological background of legislation which authorizes regulatory exemption of radioactive waste streams. Part II argues that the new policy violates the Low Level Radioactive Waste Policy Act Amendments of 1985. Part III maintains that states, under their traditional powers, should govern the disposal of all "low-level"[19] radioactive waste, as well as maintain the option to regulate BRC waste streams into licensed facilities.

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13. The Low Level Radioactive Waste Policy Amendments Act of 1985, Pub. L. No. 99-240, 99 Stat. 1842 (1986) (codified at 42 U.S.C. §§ 2021(b)-2021(j) (1988)).

14. *Id.*

15. See e.g., 136 CONG. REC. E2691 (daily ed. Aug. 3, 1990) (statement of Rep. Miller).

> It is difficult to conceive why the NRC has come up with such a senseless policy. At an investigative hearing that I conducted on the BRC policy last week, I could find no plausible explanation or rationale for the policy. Indeed, documents obtained by my office released that the NRC Commissioners overrode the recommendations of their own staff experts when they were developing the policy. The hearing also revealed that the Commissioners ignored legitimate objections raised by the Environmental Protection Agency, the states and the public.

Id. See also 136 CONG. REC. S12170 (daily ed. July 10, 1990) (statement of Sen. Mitchell) ("I do not believe that the NRC's radioactive waste deregulation policy is sound. It should not be allowed to stand. The NRC should also not be empowered to override States' interests in providing greater public health protection than the NRC is willing to provide.")

16. *See* 136 CONG. REC. E2691 (daily ed. Aug. 3, 1990) (statement of Rep. Miller).

17. *Id.*

18. *Id.*

19. 42 U.S.C. § 2021(d) (1983). Low-level radioactive waste is defined as neither high-level radioactive waste, transuranic waste, spent nuclear fuel, nor uranium mill tailings (§ 11(e)(2) of the Atomic Energy Act, 42 U.S.C. § 2014(e)(2), 42 U.S.C. § 2021(2) (1982)).

I. CHRONOLOGICAL BACKGROUND OF DEREGULATED RADIOACTIVE WASTES

The deregulation of radioactive waste is not a recent development in nuclear waste policy. Exempting radioactive material from certain use restrictions and disposal requirement methods began under the Atomic Energy Act of 1954.[20] Congress did not specifically address the problem of low-level radioactive waste for almost thirty years.

In 1980, the Low Level Radioactive Waste Policy Act[21] established two major goals for handling low-level radioactive waste. First, the states would be responsible for ensuring the adequate disposal capacity for low-level radioactive waste generated within their borders.[22] Second, the states would form regional groups, known as compacts,[23] of which Congress would approve. These groups would allow states to collectively assume responsibility for the disposal of low-level radioactive waste.[24] The Act also directed the President to conduct a study of the disposal of low-level radioactive waste[25] but without "[affecting] the ability of the Nuclear Regulatory Commission to license any low-level waste exemption."[26] By delegating these responsibilities, this Act resulted in the NRC's adopting licensing exemption policies. In 1981, the first policy issued licenses to hospitals and research facilities to dispose of certain types of radioactive waste.[27] The later policies divided "low-level radioactive waste" into categories, Class A, B, and C, and set disposal criteria for each category of waste.[28]

In 1985, Congress clarified the provisions of the Low Level Radioactive Waste Policy Amendments Act[29] (LLRWPAA), delineating Federal and State responsibilities for low-level radioactive waste management. This Act mandates that each state assume ownership and possession of all wastes generated within its borders by a final deadline of January 1, 1996.[30] Under the LLRWPAA, the state "shall be liable for all damages [occurring] . . . as a consequence of the failure of the State to take posses-

20. *See* 42 U.S.C. §§ 2011-2296 (1988). Congress did not give the Atomic Energy Commission explicit authority to deregulate materials, but instead issued guidelines to exempt radioactive materials from licensing.

21. The Low Level Radioactive Waste Policy Act of 1980, Pub. L. No. 96-573, 94 Stat. 3341 (1980) (codified at 42 U.S.C. §§ 2021(b)-2021(d) (1988)).

22. *Id.*

23. A compact is an agreement or contract between persons, nations or states, commonly applied to working agreements between and among states concerning matters of mutual concern. BLACKS LAW DICTIONARY 255 (6th ed. 1990).

24. The Low Level Radioactive Waste Policy Act of 1980, Pub. L. No. 96-573, 94 Stat. 3341 (1980) (codified at 42 U.S.C. §§ 2021(b)-2021(d) (1988)).

25. *Id.*

26. *Id.*

27. 46 Fed. Reg. 16,234 (1981).

28. 10 C.F.R. pt. 61.1 (1981).

29. The Low Level Radioactive Waste Policy Amendments Act of 1985, Pub. L. No. 99-240, 99 Stat. 1842 (1986) (codified at 42 U.S.C. §§ 2021(b)-2021(j) (1988)).

30. *Id.* at § 5(e).

sion of the waste. . . ."[31] The LLRWPAA provides incentives for establishing regional waste disposal sites and imposes penalties against states that do not meet deadlines.[32]

The Act also directs the NRC to create a general policy to deregulate radioactive waste.[33] This directive resulted in the BRC policy. Section 10 of the LLRWPAA provides that the NRC will develop technical considerations "to exempt specific radioactive waste streams from regulation."[34] If the Commission determines that "regulation of a radioactive waste stream is not necessary . . . to protect public health and safety, the Commission shall take such steps necessary to exempt the disposal of such radioactive waste from regulation."[35] The NRC relied on section ten of the LLRWPAA to remove responsibility for disposing of certain wastes from the states under the BRC policy.

Since the enactment of the LLRWPAA, the NRC has issued three policy statements creating categories of deregulated radioactive materials.[36] Each policy statement has broadened the definition of exempted radioactive wastes which could be disposed of without regulation. The first policy statement was announced in response to the 1985 Amendment in which the Commission promulgated exemption standards for various levels of radiation. In this policy, the maximum effective dosages are very low, the impact to the environment must not be significant, and there is no mention of recycling radioactive materials into consumer goods.[37] The second policy statement, issued in 1988, was expanded to include any type of radioactive material (not just waste) to be deregulated. This statement also raised the permissible levels of public exposure to radiation.[38] The NRC's July 1990 definition of the BRC has been greatly expanded, and departs from its previous posture.[39] The NRC has not issued any guidelines for implementing this policy, but intends to

31. *Id.*

32. *Id.* at § 5(d).

33. The Low Level Radioactive Waste Policy Amendments Act of 1985, § 10(a) Pub. L. No. 99-240, 99 Stat. 1842 (1986) (codified at 42 U.S.C. §§ 2021(b)-2021(j) (1988)).

34. *Id.*

35. *Id.* at § 10(b).

36. Below Regulatory Concern, Policy Statement, 51 Fed. Reg. 30,840 (codified at 10 C.F.R. pt. 2 (1986)). The criteria for exemption include: (1) Disposal and treatment of the wastes as specified in the petition will result in no significant impact on the quality of human environment; (2) the maximum effective dose to an individual member of the public does not exceed a few millirem per year for normal operations and anticipated events; (3) the collective dose to the critical population and general population are small; (4) the waste is compatible with the proposed treatment and disposal options; (5) the exemption is useful on a national scale, i.e., it is likely to be used by a category of licensees or at least a significant portion of a category; (6) the disposal form of the waste has negligible potential for recycle; and (7) no NRC exemption could be made without prior EPA approval.

37. *Id.*

38. *See* Below Regulatory Concern, Policy Statement, 53 Fed. Reg. 49,887 (1988).

39. Below Regulatory Concern, Policy Statement, 55 Fed. Reg. 27,522 (1990).

exempt materials on a case-by-case basis.[40]

II. THE BRC POLICY VIOLATES THE LOW-LEVEL RADIOACTIVE WASTE POLICY AMENDMENTS ACT OF 1985

It is the author's view that the NRC far exceeded the authority provided it in the LLRWPAA when it announced its new BRC policy. The NRC's indication that it will preempt state regulations prohibiting BRC wastes from entering local landfills disregards the LLRWPAA's grant of authority to states to regulate low-level radioactive waste.

A. *Public Health and Safety*

Section 10(b) of the LLRWPAA allows the NRC to deregulate that part "of a waste stream [that] is not necessary to protect the public health and safety."[41] Congress specifically directed the NRC to exercise this authority with "particular care and diligence to ensure that waste that may be a possible threat" to public health and safety does not escape careful regulation.[42]

However, the standard used by the NRC for implementing the BRC policy is based on ensuring merely "adequate" protection of the public and "acceptable risk."[43] The standard in the BRC policy and the standard in the statute are not equivalent. The language of the statute and the legislative history indicate that waste streams can be exempted only if there is no possible threat to the public health. The more stringent statutory standard allows fewer exemptions than the standard of the BRC policy.

The BRC Policy Statement is ambiguous because it omits crucial details pertaining to the definition of risk.[44] The details regarding the risk

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40. *Id.*

41. The Low Level Radioactive Waste Policy Amendments Act of 1985, Pub. L. No. 99-240, section 10(b), 99 Stat. 1842 (1986) (codified at 42 U.S.C. §§ 2021(b) (1988)).

42. Committee on Energy and Commerce, H.R. 1083, 99th Cong., 1st Sess. 3, *reprinted in* 1985 U.S. CODE CONG. & ADMIN. NEWS 3026.

> Subsection (a) requires the NRC to identify by rule any low level radioactive waste, as defined by the Act, which is not required to be disposed of at a low level radioactive waste facility in order to protect the public health and safety. In addition, the NRC is directed to establish technical requirements and criteria for the disposal of such waste in a manner that protects the public health and safety. The NRC should exercise such authority with particular care and diligence to ensure that waste that may be a possible threat to public health and safety does not escape careful regulation.

43. Below Regulatory Concern, Policy Statement, 55 Fed. Reg. 27,522, 27,523 (1990). The policy statement provides only for adequate protection or protection from acceptable risks. ("The policy statement establishes a consistent framework for regulatory exemption decisions, ensures an *adequate* and consistent level of protection of the public in their use of radioactive materials. . . . The BRC criteria are necessary to ensure adequate and consistent decisions on *acceptable risks* posed by decontaminated and decommissioned nuclear facilities. . .") *Id.* at 27,523 (emphasis added).

44. Below Regulatory Concern, Policy Statement, 55 Fed. Reg. 27,522, 27,526 (1990).

to children remain unclear.[45] Levels which are of little consequence to adults may pose great risks to children.[46] The policy states that these risks are not to be determined by the Agency, but rather by affected elements of society.[47] This type of approach conflicts with the standard in the LLRWPAA using "particular care and diligence" to protect public safety and health[48] because the policy is unclear as to how the risks to the "affected elements of society" are to be determined, and how these "affected elements of society" are to decide the risks of possible exposure to radiation hazards from deregulated materials.

When determining risk to the public, the Commission uses a far more lenient radiation protection standard[49] than that recommended by its staff experts,[50] the EPA,[51] and the International Atomic Energy

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> The Commission may determine on the basis of risk estimates and associated uncertainties that certain practices should not be considered candidates for exemption, such as the introduction of radioactive materials into products to be consumed or used primarily by children. . . . In formulating this policy statement, the commission deliberated at length on the need to consider whether practices must be rigorously justified in terms of societal benefit regardless of the risk they pose. . . . The Commission believes that justification decisions involving social and cultural value judgments should be made by affected elements of society and not the regulatory agency. Consequently, the Commission will not consider whether a practice is justified in terms of net societal benefit.

Id. at 27,533.

Commissioner Carr, a staff expert, opposes this position of justification regarding net societal benefit.

> This bifurcated approach to justification of practice, which appears to distinguish practices involving children from all other practices, will inevitably lead to confusion. Moreover, this approach poses the very real potential that the Commission could, on the one hand, reject a practice involving children (e.g., baby food, pacifiers, and the like) on the ground that the risk posed by such a practice is too high, yet authorize a practice directed at the general public that could, coincidentally, expose an even greater number of children, even though the practice itself is not specifically directed at children. . . . I would state explicitly in this Policy Statement that the Commission retains the prerogative to determine that specific practices may be unsuitable for exemption, regardless of risk, documenting such determinations on a case-by-case basis.

45. *Id.*

46. *Id.*

47. *See* Below Regulatory Concern, Policy Statement, 55 Fed. Reg. 27,526 (1990). The term "affected elements" has not been defined by the NRC.

48. *See supra* note 39 and accompanying text.

49. The Commission uses the "as low as reasonably achievable" (ALARA) standard for radiation protection. The basic philosophy for the ALARA standard has been expressed by the International Commission on radiological protection. The ALARA standard is based upon the theory that there is no safe radiation level. By using a linear hypothesis, the effect of radiation is scaled from a very harmful dosage down to a zero dosage. *See* R. COTTRELL, HOW SAFE IS NUCLEAR ENERGY? 24 (1981).

50. *See* Below Regulatory Concern, Policy Statement, 55 Fed. Reg. 27,522, 27,532 (1990).

> The internationally agreed standard for exposure to radiation is 100 person-rem for collective dosages. This standard is an order of magnitude lower than the current 1000 person-rem standard proposed by the NRC for this policy. The NRC staff experts favored the lower limit for collective dosages. The staff cited

Agency.[52] The proposed standard is unsafe and problematic because by its definition, there would be no means of monitoring whether the safe dose limits for radiation exposure were being exceeded.[53] The standard was adopted by the NRC because the higher standard is too costly. The NRC determined that the one mrem-person criterion[54] (the standard that the NRC experts wanted to adopt) is too restrictive because "regulatory resources associated with its implementation may be better spent to control more significant risks."[55] This reasoning, however, is at odds with the aims cited in legislative history of the LLWRPAA, in which Congress emphasized that "health, safety, and environmental considerations should take precedence over economic or institutional concerns."[56]

To summarize, the BRC policy violates the LLRWPAA of 1985 in three respects. First, the language of the policy does not state clearly that only waste streams that would not endanger the public health and

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a 100 person-rem as a collective dose criterion to protect public health and safety.

Id. The staff experts also favored an individual dose criteria of 10 mrem per year for practices involving potential exposures to a limited number of the public, and 1 mrem per year for widespread practice.

Commissioner Curtis stated: "I do not support the establishment of a collective dose criterion level of 1000 person-rem. This level is a magnitude higher than the level recommended in IAEA Series No. 89." *Id.*

51. Guimond, Office of Radiation Programs, U.S. Environmental Protection Agency, *Proceedings, Workshop on Rules for Exemption from Regulatory Control* 45 (Oct. 17-19, 1988). The EPA, which is working on BRC standards, found the NRC's proposed exposure levels before the final policy was published to be "totally inappropriate." Guimond, *Statement on the Nuclear Regulatory Commission's Proposed Policy for Exemptions from Regulatory Control* 6, 10 (Jan. 12, 1989). The statement also provided that the policy would not adequately protect public health and the quality of the human environment.

52. *See* Below Regulatory Concern, Policy Statement, 55 Fed. Reg. 27,522, 27,532 (1990). Recent data suggests that cancer risk at such a high level may be almost 60% higher than NRC's estimate. *See* Committee on the Biological Effects of Ionizing Radiation, National Research Council, National Academy of Sciences, *Health Effects of Exposure to Low Levels of Ionizing Radiation: BEIR V*, at 6 (1990).

53. *See* Below Regulatory Concern, Policy Statement, 55 Fed. Reg. 27,532 (1990). By its definition, deregulation would allow for doses that would exceed the "safe" estimates set by the NRC. The Commissioner of the NRC argued that a collective dose criterion of 1000 person-rem would mean,

> for example, that if pursuant to this Policy statement, the Commission were to be exempt on the order of 15 separate practices at or near the exemption level of 1000 person-rem not an unreasonable expectation, given previous practice - we [the staff experts] would project somewhere between 5 and 10 excess health effects annually. These dose limits were overruled by Chairman Carr because it was "highly improbable given the Commission's plans to monitor any overlap of exposed population from exempted practices. . . ."

54. A person-rem is "[a] unit of population dose of radiation exposure. The number of person-rems a group receives equals the product of the number of persons in the group and the average radiation dose equivalent received by persons in the group." An mrem is one-thousandth of each of these units. Marnicio, *Regulation of Ionizing Radiation, quoted in Quantitative Risk Assessment in Regulation*, at 197. (F. Lave ed. 1982).

55. Below Regulatory Concern, Policy Statement, 55 Fed. Reg. 27,522, 27,534 (1990).

56. S. 1517, 99th Cong., 1st Sess. 9 (1985).

safety could be deregulated. Instead, the policy deregulates any waste stream that is "adequately" protected, or lacks an "undue risk" to the public. Second, the policy uses a standard for developing an undue risk to the public that is ten times lower than the internationally agreed upon standard. This overrides staff proposals and departs from the Agency's previous practices of using higher standards to evaluate deregulation of radioactive waste streams. Third, the policy puts economic concerns above public health concerns, asserting that resources would be better spent concentrating on wastes with higher radiation levels.[57]

B. *Authority Granted to States to Regulate Low-Level Radioactive Waste*

The purpose of the LLRWPAA was to clarify responsibilities of the state and federal governments for low-level radioactive waste management.[58] Under the LLRWPAA, the states would be responsible for disposal of low-level radioactive waste generated within their borders.[59] The legislative history indicates that Congress intended to give the states the right to create additional definitions of low-level radioactive waste.[60] In addition, the legislative history provides that, should the NRC revise its definition of radioactive waste, such revision would not affect the definition of the kind of radioactive material of which the states must provide disposal.[61] The statute narrowly directs the states to take responsibility for the disposal of low-level radioactive active waste as defined by the NRC in the Code of Federal Regulations.[62]

The states are responsible for the disposal of Classes A, B, and C level wastes.[63] Class A waste contains the least radioactivity and is defined in

57. *See* Below Regulatory Concern, Policy Statement, 55 Fed. Reg. 27,532 (1990). The policy further states that the probability of causing harm by increasing the radiation limits for deregulation are so small as not to warrant reconsideration.

58. Committee on Energy and Commerce, H.R. REP. No. 1083, 99th Cong., 1st Sess. 3, *reprinted in* 1985 U.S. CODE CONG. & ADMIN. NEWS 3017 "[n]o new state authority superseding Federal law is intended to be created except the authority to control import or export of waste to or from compact regions."

59. H. R. REP. NO. 99-314, 99th Cong., 1st Sess. 3, *reprinted in* 1985 U.S. CODE CONG. & ADMIN. NEWS 2975, 2987. The states are responsible for disposal of radioactive waste that would constitute Classes A, B, C definitions under 10 C.F.R. § 61.55 (1990).

60. H. R. REP. NO. 99-314, 99th Cong., 1st Sess. 3, *reprinted in* 1985 U.S. CODE CONG. & ADMIN. NEWS 2975, 2987. Interstate compacts or individual states may develop definitions of low-level radioactive waste which are not identical to this definition of state responsibility.

61. *Id.*

62. *See* 10 C.F.R. § 61.55 (1990).

63. *Id.* Waste is divided into three categories. According to 10 C.F.R. § 61.55, the determination of the classification of radioactive wastes involves two considerations: (1) concentration of long lived radionuclides; and (2) concentration of short lived radionuclides. If the concentration of long lived radionuclides does not exceed .1 times the value in Table 1 of § 61.55, the waste is Class A. This describes that there is no "low end" cut off for wastes that are classified as Class A (that which the states are responsi-

terms of maximum radioactivity.[64] Under these categories, some BRC waste could be considered Class A waste, thus making it the responsibility of the state. The NRC contends that inconsistent definitions of the BRC waste streams frustrate the purpose of the LLRWPAA and create confusion by allowing a patchwork of requirements. These inconsistent regulations, the NRC argues, would prevent decommissioning requirements.[65]

The LLRWPAA gave the states great latitude in determining technical requirements and location of low-level radioactive waste disposal facilities. There are inconsistencies in definitions of low-level radioactive waste between the state compacts. For example, the Rocky Mountain State compact has defined low-level radioactive waste to include radon in licensed facilities.[66] There are also varying standards for waste disposal methods at the different licensed facilities.[67] The Appalachian compact adopted a strict waste disposal law. There is no commercial incineration, no limit on the liability of the site operator, and severe restrictions on below-ground disposal options. The law contains a zero-release limit and requires that institutional control over the waste disposal facility be maintained for the hazardous life of the waste.[68] (NRC regulations require institutional control for 100 years.) The Central Midwest compact endorsed a stringent disposal regulation including above-ground storage, a one-millirem-per-year dose limit for people living near the site.[69] The Southwestern compact currently plans to use shallow-land burial for waste disposal, in the form of "enhanced" shallow land disposal at an arid site.[70] These inconsistencies have not yet been obstacles in the development of low-level radioactive waste facilities because there are nine "low-level" radioactive waste compacts accounting for 43 states.[71] Therefore, a state regulation that would create a stricter definition of low-level radioactive waste and include BRC waste streams would not frustrate the intention of Congress or the purpose of the LLRWPAA.

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ble); the table suggests that the states are responsible for that waste which does not exceed a certain concentration value.

64. *Id.*

65. Below Regulatory Concern, Policy Statement, 55 Fed. Reg. 27,522, 27,533, 27,537 (1990).

> If the states are permitted to require that low-level waste streams designated BRC by the Commission be disposed of in a low-level waste facility, it could result in a site in one state being released for unrestricted use, while soil or materials in an adjacent state at that level would be required to be confined in a low-level waste facility. If a patchwork of disposal criteria were to develop, it would be virtually impossible to establish decommissioning funding requirements.

66. Below Regulatory Concern, Policy Statement, 55 Fed. Reg. 27,533 at n. 4 (1990).

67. *See* Saleska, *Nuclear Legacy: An Overview of the Places, Problems, and Politics of Radioactive Waste in the United States*, (Public Citizen, 1989).

68. *Id.*

69. *Id.*

70. *Id.*

71. *See* Saleska *supra* note 67 at VII-16.

Commissioner Carr of the NRC states that no convincing health reason exists to prevent states from regulating BRC waste.[72] He also contends that under section eight of the LLRWPAA, states were given greater latitude to determine what radioactive materials would go into landfills. Congress recognized that the states were uniquely equipped to handle the responsibility for developing low-level radioactive waste capacity.[73] Although state regulation is not necessarily incompatible with NRC deregulation, many states have enacted legislation preventing disposal of BRC waste streams in unlicensed landfills.[74]

The LLRWPAA delegated responsibility of low-level radioactive waste management to the state compacts. The current inconsistent regulations have not prevented states from taking responsibility for disposal of the waste. There is no compelling health reason not to let the states retain the option of deregulating BRC waste streams. Therefore, the NRC contention that any BRC waste must be sent to an unlicensed landfill is inconsistent with the LLRWPAA.

III. TRADITIONAL STATE AUTHORITY TO REGULATE RADIOACTIVE WASTE

The NRC contends that it has exclusive authority to regulate BRC waste streams and that any state regulation that affects these exempted wastes would be preempted.[75] States, however, have maintained their

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72. Below Regulatory Concern, Policy Statement, 55 Fed. Reg. 27,522, 27,534 (1990).

> I am not aware of any public health and safety rationale involving low-level waste disposal that has been advanced as a basis for the NRC to insist that the Commission's position on BRC should be a matter of compatibility for Agreement States. One hears the anecdotal information about reducing exposures to truck drivers by allowing BRC waste streams to be disposed of in local landfills, rather than requiring such waste to be transported across the country to a licensed low-level waste disposal facility. If examples such as this constitute the basis for declaring that a health and safety concern exists such that the Commission should, in turn, prohibit a [s]tate from requiring such waste to be disposed of in a licensed low-level waste disposal facility, then a more disciplined and persuasive presentation of the argument is needed. To date, I have yet to see a such case.

73. The states were granted the authority to develop the construction and operation of low-level waste facilities. In section 8 of the LLRWPAA [C]ongress recognized that some states may go beyond the requirements established in 10 C.F.R. Part 61 for shallow land burial facilities. If a state should decide to require radioactive wastes beyond those defined by the NRC as Class A, B and C, the LLRWPAA permits the state that option. The BRC policy, however, takes the position that a state could not regulate a radioactive material that the commission has exempted. Therefore, a state could not require this waste to be disposed of in a licensed low-level waste facility. The Commission argues that requiring the deregulated waste to be disposed of at licensed facilities would use up the scarce disposal of space available at licensed low-level waste facilities. This reasoning, however, conflicts with the intention of Congress to place public health and safety concerns above economic concerns.

74. *See* Saleska, *supra* note 67 at VII-15.

75. Such a contention, however, is unwarranted in light of current federal regulations for environmental protection. Under 42 U.S.C. § 7602(g) (1988), a state can regulate air

traditional responsibilities regarding land use and environmental protection at sites other than BRC waste streams. For example, states may deny the construction of nuclear power plants on the grounds of economic feasibility.[76]

According to the BRC policy, the Atomic Energy Act of 1954 gives the federal government the exclusive authority to regulate source materials, as well as special nuclear and by-product materials.[77] The policy also states that NRC regulations exempting BRC wastes have no effect on the authority of state or local agencies to regulate BRC wastes for purposes other than protection from radiation.[78] Although there is evidence that the new BRC policy would violate the "public health and safety standard" of the LLRWPAA, states may have economic reasons to regulate this low-level radioactive waste.

State regulation of the radiation hazards associated with nuclear energy has its origins in section 274 of the Atomic Energy Act.[79] However, the NRC contends that, pursuant to that Act, it has exclusive authority to regulate BRC waste streams and that any state regulation for these exempted wastes would be preempted. Sections 274(b) and 274(d) authorize the Atomic Energy Commission to enter into agreements with states whereby authority to regulate "radiation hazards" would be delegated to the states.[80] However, section 274(k) provides that nothing in

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pollutants under the Clean Air Act Amendments including any "radioactive (including source material, special nuclear material, and by-product material) substance or matter which is emitted into or otherwise enters the ambient air." Clean Air Act, § 116, 42 U.S.C. § 7602(a) (1980) also provides a basis for including state and local authority over radioactive emissions.

> Except as otherwise provided . . . nothing in this chapter shall preclude or deny the right of any [s]tate or political subdivision thereof to adopt or enforce (1) any standard or limitation respecting emissions of air pollutants or (2) any requirement respecting control or abatement of air pollution; except that if an emission standard or limitation is in effect under an applicable implementation plan or under section 7411 or section 7412 of this title, such [s]tate or political subdivision may not adopt or enforce any emission standard or limitation which is *less stringent* than the standard or limitation under such plan or section.

42 U.S.C. § 7416 (1980) (emphasis added).

Under this section, states may adopt more stringent radioactive air pollution requirements to exert regulatory control over nuclear facilities and waste disposal. The CAA provides that states either can immediately adopt federal standards or can "promulgate stricter standards where federal requirements already exist." *See also* Stensvaag, *State Regulation of Nuclear Generating Plants Under the Clean Air Act Amendments of 1977*, 55 S. CAL. L. REV. 511 (1982); Woychik, *California's Nuclear Disposal Law Confronts the Nuclear Waste Management Dilemma: State Power to Regulate Reactors*, 14 ENVTL. L. REP. 359 (1984).

76. Pacific Gas and Elec. v. State Energy Resources Conservation and Dev. Comm'n, 461 U.S. 190 (1983).

77. Below Regulatory Concern, Policy Statement, 55 Fed. Reg. 27,522, 27,534 (1990).

78. Atomic Energy Act of 1954, Pub. L. No. 86-373, § 274, 73 Stat. 688 (codified at 42 U.S.C. § 2021 (1976)).

79. *Id.*

80. *Id.*

that section should be "construed to affect the authority of any [s]tate or local agency to regulate activities for purposes other than protection against radiation hazards."[81] Instead of providing an "affirmative grant of power" to states to legislate and regulate radiation hazards, section 274 invalidated most state legislation and regulations designed to control radiation.[82] However, some cases did rely on section 274 to defend state regulation of nonradiological hazards associated with nuclear energy.[83]

The most recent case dealing with state regulatory power of nuclear power plants in regard to nonradiological hazards is *Pacific Gas and Electric v. State Energy Resources Conservation and Development Commission*.[84] In *Pacific Gas and Electric*, the United States appealed a lower court decision upholding a California moratorium on the certification of new power plants.[85] The Court analyzed the doctrine of federal preemption in relation to the Atomic Energy Act and traditional state authority.[86]

The federal preemption analysis is divided into three categories: (1) express preemption, where Congress has expressly precluded state regulation; (2) implied preemption, where the structure or objectives of the statute imply that Congress has precluded state regulation in that area; and (3) conflict preemption, where the particular state law conflicts directly with federal law, or stands as an obstacle to the accomplishment

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81. *Id.*

82. States may not directly regulate "radiation hazards" from nuclear power plants. *See* Northern States Power Co. v. Minnesota, 320 F. Supp. 172 (D. Minn. 1970), *aff'd*, 447 F.2d 1143 (8th Cir. 1971), *aff'd*, 405 U.S. 1035 (1972). *See also* Public Interest Research Group, Inc. v. New Jersey, 152 N.J. Super. 191, 216, 377 A.2d 915, 928 (App. Div. 1977) *cert. denied*, 75 N.J. 538, 384 A.2d 517 (1977).

83. *See, e.g.*, Marshall v. Consumers Power Co., 65 Mich. App. 237, 247-64, 237 N.W.2d 266, 274-82 (1975). (Court suggests that a state order to halt construction pending compliance with state standards governing such nonradiological impacts would not frustrate federal objectives); *See also In re* Consolidated Edison Co. (Indian Point Station, Unit No. 2), ALAB-453, [1978] 2 Nuclear Reg. Rep. (CCH) ¶ 30,265.

> We [do] not [here] have the case of a state (or one of its political subdivisions) refusing to authorize the construction of a nuclear power plant on environmental grounds. Clearly, such a refusal would not conflict with federal law. . . . [S]tates (and, upon appropriate delegation, their political subdivisions) retain the right, even in the face of the issuance of an NRC construction permit, to preclude construction on such bases as a lack of need for additional generating capacity or the environmental unacceptability of the proposed facility or site.

Cavers, *State Responsibility in the Regulation of Atomic Reactors*, 50 KY. L. J. 29 (1961).

84. 461 U.S. 190 (1983).

85. *Id.* at 198, 214-16. The legislation provided that the moratorium would be lifted when the State Energy Commission approved of a method to dispose of nuclear wastes. The Court emphasized that the state statute did not seek to regulate the construction or operation of a nuclear power plant. California's avowed economic purpose as the rationale for the moratorium was accepted by the Court.

86. *Id.* at 203-16. This case is pertinent to the discussion of state regulation of low-level radioactive waste because in the BRC policy, the NRC cites the Atomic Energy Act as a basis for their authority to preempt state regulations.

of federal objectives.[87] Although states were allowed to further Congress' general purpose of promoting nuclear power, the majority of the Court found that any state nuclear safety regulation would be preempted.[88] "[T]he Federal Government has occupied the entire field of nuclear safety concerns, except the limited powers expressly ceded to the States."[89] The Court reviewed the Nuclear Waste Policy Act,[90] in addition to the Atomic Energy Act, and concluded that Congress intended to convince state authorities that there was a federal commitment to storage and waste disposal. The Court found that there would be preemption only if Congress had expressly or impliedly precluded state regulation. Since there was a federal commitment only to storage of this high-level waste, no preemption existed.

In *Pacific Gas and Electric*, the Court examined section 274 of the Atomic Energy Act. In applying section 274(k) to the facts of the case, the Court declined to construe an affirmative grant of authority to the states. It did, however, underscore the fact that section 274(k) left some regulatory activities to state control (purposes other than protection from radiation) with the remainder of regulatory activity being left to the federal government.[91] The Court concluded by saying that Congress did not intend that nuclear power be developed "at all costs," but only that it proceed consistent with other priorities and subject to controls traditionally exercised by the [s]tates and expressly preserved by the [f]ederal statute.[92] The decision demonstrated that the states have the authority to determine the needs for new nuclear reactors, economic feasibility, and related services.[93] The Court explained further that "Congress left sufficient authority with the states to allow development of nuclear power to be slowed or even stopped for economic reasons."[94]

The NRC relies on section 4(b) of the LLRWPAA and section 274 of the Atomic Energy Act to assert that the BRC policy preempts any state regulation of radioactive waste.[95] While the LLRWPAA seems to grant

87. 461 U.S. 190, 203-04 (1983); *See also*, L. Tribe, CONSTITUTIONAL LAW 481, n.14 (2d ed. 1988).

88. 461 U.S. at 212.

89. *Id.* Justices Blackmun and Stevens would only apply preemptive effect to nuclear safety regulations of nuclear power plants.

90. *Id.* at 219.

91. 461 U.S. at 219-20.

92. *Id.* at 222-23.

93. *See also* Stensvaag, *State Regulation of Nuclear Generating Plants Under the Clean Air Act Amendments of 1977*, 55 S. CAL. L. REV. 511 (1982); Woychik, *California's Nuclear Disposal Law Confronts the Nuclear Waste Management Dilemma: State Power to Regulate Reactors* 14 ENVTL. L. REP. 359 (1984).

94. Pacific Gas and Elec. v. State Energy Resources Conservation and Dev. Comm'n, 461 U.S. 190, 223 (1983).

95. Below Regulatory Concern, Policy Statement, 55 Fed. Reg. 27,522 (1990).

> 4(b)(3) Effects of Compacts on Federal Law:
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> Nothing in this Act or any compact may be construed to confer any new authority on any compact commission or State (A) to regulate the packaging, generation, treatment, storage, disposal, or transportation of low-level radioac-

a great deal of power to the NRC, this interpretation is possible only by a select reading of the passage that ignores the grant of authority to states.[96] The NRC mistakenly relies on the Atomic Energy Act to assert authority over the states for mandatory deregulation of BRC waste streams. The BRC policy cites the legislative history of the Atomic Energy Act that explain that state standards must be either *compatible* or *identical* with those of the federal government in order to be valid.[97] The NRC assumes that "identical" means "compatible" in terms of BRC wastes streams. Such a reading of the legislative history, however, would render the presence of the word "compatible" superfluous. Therefore, Congress must have intended that compatible state regulations are valid.

An interpretation of section 274(d) of the Atomic Energy Act as permitting the NRC to dictate which wastes would be sent to local landfills would render section 274(k) meaningless. States have an economic interest in maintaining control of their local landfills. States maintain environmental, zoning, and land use requirements for their unlicensed landfills that would require regulation of BRC waste streams. Furthermore, states have an economic incentive to avoid potential liability for mismanagement of radioactive materials at unlicensed facilities. Special facilities have been built at considerable expense to states to specifically handle this waste.[98] The BRC policy does not take this economic interest of states into consideration. Regardless of the public health and safety standards, states should be able to regulate all radioactive waste within their borders. States should be able to set standards for their own landfills regarding the amounts of materials, how to contain them, and to which landfills to send them.

It is important to note that *Pacific Gas and Electric* deals with the Atomic Energy Act, the Nuclear Waste Policy Act, and the regulation of high-level nuclear waste. The Nuclear Waste Policy Act provides that the federal government, rather than the states, is responsible for the disposal of the waste. The LLRWPAA specifically delegated the responsibility of low-level radioactive waste disposal to the states.[99] As the BRC

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tive waste in a manner incompatible with the regulations of the Nuclear Regulatory Commission or (B) to regulate health, safety or environmental hazards from source material, byproduct or special nuclear material.

(4) Federal authority - Except as expressly provided in this Act, nothing contained in this Act or any compact may be construed to limit the applicability of a Federal law or to diminish or otherwise impair the jurisdiction of any Federal Agency.

Id. *See also supra* notes 54-57 & accompanying text.

96. *See supra* notes 54-57 & accompanying text.

97. Below Regulatory Concern, Policy Statement, 55 Fed. Reg. 27,522 (1990). The Policy Statement cites the Joint Committee on Atomic Energy statement which says that states must have identical or compatible radiation standards as that of the Federal government.

98. *See supra* note 54 and accompanying text.

99. Below Regulatory Concern, Policy Statement, 55 Fed. Reg. 27,522 (1990). *See supra* note 54 and accompanying text.

policy derives its authority from the LLRWPAA, the NRC's argument that its authority preempts state regulation is unfounded due to the Act's delegation of authority to the states.

States may exercise their police powers to regulate land use, zoning, and environmental matters, particularly in situations with localized ramifications where proper solutions require state or local attention.[100] If the NRC were permitted to mandate deregulation of such waste, a regulatory vacuum would be created. Allowing the NRC to dictate what materials to send to local landfills would be an affront to federalism. By deregulating waste and lowering radiological standards, the NRC would be forcing states to abandon local control. This would impose a laissez-faire regulation to local landfills. Congress did not intend for the NRC to mandate regulations for local landfills.

CONCLUSION

The Commission's new policy to deregulate low-level radioactive waste seems to violate the Low Level Radioactive Waste Policy Act Amendments of 1985. The standard used in the BRC policy to adequately protect the public health and safety is inconsistent with the language in the LLRWPAA. Furthermore, the states still retain their power to adopt more stringent radiation control than the Commission allows under the new policy.

Despite the BRC policy, states will maintain their traditional responsibilities regarding land use. Since the states bear the ultimate financial responsibility for liability of low-level radioactive waste that is not properly disposed of, they have a strong economic interest in ensuring proper disposal. The best way to provide for environmental protection and public safety is to allow states to retain their authority to manage low-level radioactive waste.

Karen Geer

100. *See, e.g.*, Village of Belle Terre v. Boraas, 416 U.S. 1, 13-14 (1974); Village of Euclid v. Ambler Realty Co., 272 U.S. 365, 395 (1926).