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

CHAIRMAN

September 11, 1990

The Honorable Morris K. Udall, Chairman
Committee on Interior and Insular Affairs
United States House of Representatives
Washington, D. C. 20515

Dear Mr. Chairman:

We appreciate the opportunity to express our views on H.R. 5505 and H.R 5446, which relate to the Nuclear Regulatory Commission's (NRC's) recently announced Below Regulatory Concern (BRC) Policy Statement. This legislation would allow States, and political subdivisions of a State in the case of H.R. 5446, to impose radiation safety regulations on disposal of low-level radioactive waste which NRC has determined does not require regulation because of its low health risk. The Commission believes that the proposed legislation is unwise and should not be enacted.

A majority of the Commission believes that allowing State or local government to regulate disposal of such very low-level radioactive waste will not result in any significant benefit to the public. The bill could adversely affect certain classes of licensees that perform activities important to the public interest, such as hospitals and medical research facilities, by enabling States to remove existing exemptions for such wastes as patient excreta and biohazardous wastes that contain small quantities of nuclear materials. The legislation would also pave the way for an undesirable patchwork of regulations within a State or between States, thereby resulting in confusion on whether an adequate level of safety is being achieved and potentially impairing interstate commerce and environmental protection. My personal views on this matter are more fully explained in my response to Commissioner Curtiss' views on the BRC Policy Statement, a copy of which is attached.

Moreover, the Commission's BRC Policy Statement does not have the legal effect of "de-regulating" anything or depriving any State of any of its existing statutory authority. A new waste stream would become exempt from present disposal requirements only if a new regulation were promulgated by NRC to this effect. With limited exceptions, non-agreement States are preempted by the Atomic Energy Act from regulating low-level source, byproduct, and special nuclear material waste from the standpoint of protection against radiation hazards. This statutory preemption applies regardless of what NRC may do to implement its BRC Policy. Agreement States, which would have

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general authority to regulate for protection against radiation hazards, would only be preempted from implementing alternative regulations if NRC required adoption of similar or identical regulations in the interest of having uniform Federal standards. NRC plans to make such judgments in the future in rulemaking proceedings that will explore fully not only the health and safety implications of exempting disposal of the waste from licensing, but also the need for uniform Federal radiation protection standards. States and other interested persons can fully participate in any such future rulemaking proceeding, and any rules will be subject to judicial review. Until this process has occurred, we believe that it is premature to consider legislation to address this issue.

Finally, even though the Commission's BRC Policy Statement by itself does not exempt anything from licensing, H.R. 5505 would "revoke" it. Our intent in issuing the policy statement was to develop a consistent risk-based exemption policy applicable to exemptions in a number of areas. These include the decontamination and decommissioning of licensed facilities, distribution of consumer products containing small amounts of radioactivity, and the recycling of slightly contaminated equipment and materials. Without such a uniform policy, the Commission would continue the current practice of evaluating exemptions on a case-specific basis. This approach, however, does not ensure consistent evaluation and control of risks associated with exempted practices, nor the same high level of public participation or safety that the Commission envisions will accompany implementation of the BRC policy.

For these reasons, the Commission would urge the Congress not to enact either bill. Commissioner Curtiss' separate views are attached.

Sincerely,

Kenneth M. Carr

Enclosures:
1. Separate Views of Comm. Curtiss on H.R. 5505 & H.R. 5446, With Enclosure
2. Chrm. Carr's Response to Comm. Curtiss' Views on the BRC Policy Statement

cc: Rep. Don Young
Rep. Nick Rahall

Separate Views of Commissioner Curtiss
on H.R. 5505 and H.R. 5446

Commissioner Curtiss' views on the issue of whether States should be allowed to regulate the disposal of low-level radioactive wastes that the Commission considers "below regulatory concern" are set forth in the Additional Views that he filed when the BRC Policy Statement was published (copy attached). While the proposed bills are generally consistent with the view that Commissioner Curtiss has expressed on this subject, he has two additional comments on the proposed legislation:

First, Commissioner Curtiss does not support section 2 of H.R. 5505, which would nullify the entire BRC Policy Statement. As he emphasized in his Additional Views, the BRC Policy Statement "will bring much-needed discipline and technical coherence to the patchwork of BRC regulatory decisions that have been rendered to date, providing a clearly articulated risk-based approach for reaching [such] decisions." Legislative nullification of the Policy Statement will serve no purpose, other than to remove the very framework that could bring some degree of discipline and uniformity to decisions that have been rendered in the past and, absent an amendment to the Atomic Energy Act, will in all likelihood continue to be rendered in the future. Second, Commissioner Curtiss does not support the language in H.R. 5446 which would confer on political subdivisions of a State the authority to regulate the disposal of radioactive materials adjudged to be BRC by the Commission pursuant to its Policy Statement. Commissioner Curtiss would limit the exercise of this authority to States, since it is the States, and not the political subdivisions thereof, that have been charged with the responsibility for developing low-level waste disposal sites under the Low-Level Radioactive Waste Policy Act Amendments of 1985.

Enclosure: as stated

Additional Views of Commissioner Curtiss

I strongly endorse going forward with a comprehensive policy that will establish a disciplined and consistent framework within which the Commission can define those practices that, from the standpoint of radiological risk, we consider to be below regulatory concern (BRC). The principal advantage of such a policy, in my view, is that it will bring much-needed discipline and technical coherence to the patchwork of BRC regulatory decisions that have been rendered to date, providing a clearly articulated, risk-based approach for reaching decisions on matters such as—(1) the release for unrestricted public use of lands and structures containing residual radioactivity, (2) the distribution of consumer products containing small amounts of radioactive material, (3) the disposal of very low-level radioactive waste, and (4) the recycling of slightly contaminated equipment and materials. A coherent, risk-based policy is urgently needed to provide the foundation for future regulatory actions in each of these areas. Accordingly, I strongly support this initiative.

There are certain aspects of this policy, however, with which I must reluctantly disagree. My views on these matters follow:

Individual Dose Criteria

I support the individual dose criteria of 10 millirem per year for practices involving potential exposures to limited numbers of the public and 1 millirem per year for widespread practices that involve potential exposures to large numbers of the public. In view of the potential for multiple exposures from widespread practices, however, and in the interest of administrative finality, I believe that the Commission should establish the 1-millirem criterion as a final criterion, rather than an interim value.

Collective Dose Criterion

I do not support the establishment of a collective dose criterion at a level of 1000 person-rem. This level is an order of magnitude higher than the level recommended in IAEA Series No. 89, as well as the level recommended by most other international groups. Furthermore, it is an order of magnitude higher than the 1986 collective dose to members of the public due to effluents from *all* operating reactors, the most recent year for which figures are available.

A collective dose criterion of 1000 person-rem would mean, for example, that if, pursuant to this Policy Statement, the Commission were to exempt on the order of fifteen separate practices with collective doses at or near the exemption level of 1000 person-rem—not an unreasonable expectation, given previous practice—we would project somewhere between 5 and 10 excess health effects annually. I consider this level to be unacceptably high, when viewed in the context of other risks that we regulate and in view of the fact that the purpose of this Policy Statement is to establish a framework for identifying those practices that the Commission considers to be below regulatory concern.

Beyond this, if the collective dose criterion is to be defined as the floor to ALARA (as I would propose below), a more conservative approach to establishing a collective dose criterion is warranted in view of the fact that doses may be truncated in the calculation of collective dose and the collective dose criterion may be applied to single licensing actions.

For these reasons, I do not support a collective dose criterion of 1000 person-rem. Instead, in view of what appears to be the prevailing technical view on this matter, I would endorse a collective dose criterion of 100 person-rem.[1]

ALARA

I would define the individual and collective dose criteria as floors to ALARA.[2] Unfortunately, the Policy Statement is equivocal on this issue, suggesting at one point that the individual and collective dose criteria should be construed as floors to ALARA —

> [A] licensee . . . would no longer be required to apply the ALARA principle to reduce doses further for the exempted practice provided that it meets the conditions specified in the regulation.

but then going on to send what I consider to be a conflicting and confusing message about what the Commission expects —

> The Commission in no way wishes to discourage the voluntary application of additional health physics practices which may, in fact, reduce actual doses *below the BRC criteria* or the development of new technologies to enhance protection to the public and the environment (emphasis added).

If the Commission intends to say, as I believe it does in this Policy Statement, that those practices that fall within

[1] I would point out that the Policy Statement allows higher collective doses if analyses show that the collective dose in ALARA for a given practice. Therefore, adoption of the lower IAEA value of 100 person-rem based on dollar estimates of resources to do detailed ALARA analyses would not eliminate the option to approve practices such as smoke detectors that involve large numbers of potentially exposed members of the public.

[2] By "floor to ALARA," I mean that the petitioner and the staff are relieved from the regulatory obligation to perform further ALARA analyses below these levels if individual doses are 1 millirem/10 millirem *and* the collective dose is 100 person-rem.

the individual and collective dose criteria can be designated below regulatory concern, it is unclear why the Commission would then go on to say that it expects additional steps to be taken to keep exposures ALARA. As a general matter, I do not object to the ALARA concept. Indeed, I support the notion that collective dose and ALARA analyses should be performed in a manner that is consistent with basic national and international radiation protection principles. But in the context of a Policy Statement on Below Regulatory Concern, for the Commission to say on the one hand that the individual and collective dose criteria reflect levels below which no regulatory resources should be expended, while at the same time encouraging voluntary ALARA efforts to achieve lower doses, sends a confusing regulatory message.[3] For the sake of regulatory clarity, I would explicitly identify the individual and collective dose criteria as floors to ALARA.

Justification of Practice

On the issue of justification of practice, the Policy Statement is unclear as to when and under what circumstances the justification of practice principle would be applied. At one point, the Policy Statement provides that:

> 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.

At another point, the Policy Statement indicates that:

> 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.

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.

In my view, this ambiguity should be resolved in favor of a clear and unequivocal statement endorsing the principle of justification of practice. While I acknowledge that the principle of justification of practice calls upon the Commission to make decisions involving so-called questions of "societal value," that is an insufficient reason, in my view, to step back from this widely accepted health-physics principle. Indeed, the Commission already takes such considerations into account, either explicitly or implicitly, in many of the decisions that it renders.

Accordingly, in view of the central role that the justification of practice principle has played in health physics practice, as well as the complexity and confusion that will invariably result from the approach set forth in the Policy Statement, 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.

Agreement State Compatibility

With one exception, I concur in the general approach that this Policy Statement takes on the issue of Agreement State compatibility. The one area where I disagree involves the treatment of matters involving low-level radioactive waste disposal.

As I understand the position of the majority, the approach established in this Policy Statement, and to be implemented in the context of subsequent rulemaking initiatives, will be considered a matter of strict compatibility for Agreement State programs. As a consequence, the approach taken by individual Agreement States on BRC issues must be identical to the approach taken by the Commission. I disagree with this approach for the following reasons:

When Congress enacted the Low Level Radioactive Waste Policy Amendments Act of 1985 (LLRWPAA), it vested in the States the responsibility for developing new low-level radioactive waste disposal capacity. Indeed, the Congress recognized at the time that the States were uniquely equipped to handle this important responsibility. Accordingly, the States were given a great deal of latitude in deciding how best to proceed with the development, construction, and operation of new low-level waste disposal facilities. To take one example, Congress

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[3] I am also concerned that the approach to ALARA set forth in the Policy Statement appears to be motivated, in part, by a concern that the Environmental Protection Agency may at some future point set more stringent criteria for BRC. Of particular note is the statement that—

> This [approach to ALARA] is particularly pertinent in the area of decontamination and decommissioning ... where other federal agencies are in the process of developing standards which may affect those receiving exemptions.

In my view, the ALARA issue should be approached with the objective of formulating a sound and defensible policy, rather than with an eye towards trying to anticipate what policy EPA might establish in the future.

recognized that some States may decide to construct facilities that, from a technical standpoint, go beyond the requirements established in 10 CFR Part 61 for shallow land burial facilities; for this reason, Congress directed the NRC to develop guidance on alternatives to the shallow land burial approach reflected in Part 61 (see Section 8 of P.L. 99-240). Similarly, should a State decide to require radioactive wastes beyond those defined by the NRC as Class A, B, and C wastes to be disposed of in a regional disposal facility, the Act permits the States that option as well (see Section 3(a)(2) of P.L. 99-240).[4] In short, the LLRWPAA grants States a great deal of latitude in deciding what kind of facility to build and what types of waste will be disposed of in that facility, so long as—(1) the facility complies with the requirements of 10 CFR Part 61 and (2) the State provides disposal capacity for Class A, B, and C wastes.

If one interprets the LLRWPAA in this manner, as I do, then in my judgment it is consistent with this general approach to conclude that this Policy Statement (and the subsequent rulemaking initiatives implementing the Policy Statement) should not be considered matters of compatibility. The result of such an approach would be that individual States would be allowed the option of deciding whether low-level wastes designated BRC by the Commission under this Policy Statement should nevertheless be disposed of in a licensed low-level radioactive waste disposal facility.

The argument, as I understand it, that is advanced in support of the approach taken in the Policy Statement—that the Commission's position on BRC should be a matter of compatibility — is that States should be foreclosed from departing in any way from the approach established by the Commission. To take the most visible and controversial example that has arisen to date, this would lead to the result that a State could not require that low-level waste streams designated BRC by the Commission nevertheless be disposed of in a licensed low-level radioactive waste disposal facility.

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 State 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 such a case.[5] In the absence of a health and safety concern, it is incongruous, in my judgment, to say that the risk from a particular waste stream can be so insignificant as to be "below [NRC's] regulatory concern," but at the same time insist that we nevertheless have a sufficient interest to dictate how a State might otherwise wish to handle that waste stream.[6]

For the foregoing reasons, I would not treat the Federal policy on below regulatory concern, as set forth in this Policy Statement and subsequent rulemakings, as a matter of compatibility for Agreement States when it comes to issues involving commercial low-level radioactive waste disposal.

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[4] Indeed, the Commission did not object when the Rocky Mountain compact proposed to dispose of radium waste in the Rocky Mountain compact site.

[5] This kind of information may well be a part of the waste stream petition that the nuclear utilities are reportedly preparing for submission. If so, I would hold open the option of revisiting this question if and when the petition is filed. But at this point, I have yet to see a health and safety justification that would support a decision on the Commission's part that states should be preempted from the option of requiring waste streams designated BRC under this Policy Statement to be disposed of in licensed low-level radioactive waste disposal facilities.

[6] The argument has been made that permitting states the option of requiring BRC waste streams to be disposed of in licensed low-level waste disposal facilities would use up scarce disposal capacity and otherwise have an adverse impact on the compacting process. Indeed, this appears to have been one of the principal concerns advanced in the Commission's 1986 Policy Statement on BRC, wherein the Commission expressed the view that low-level waste generators would "be competing for space in the existing [LLW disposal] sites and the [BRC] concept should be applicable nationwide" in order to ensure "that the system works on a national basis and that it remains equitable." It was in part for this reason that the Commission declared in the 1986 Policy Statement that future "[r]ulemakings granting petitions [on BRC] will be made a matter of compatibility for Agreement States." (Policy Statement, 51 *Fed. Reg.* 30839, 30840 (August 29, 1986)). Whatever merit that approach might have had at the time, I disagree with it for two reasons: (1) Congress has vested states with the responsibility for developing and managing disposal capacity for low-level waste and, in view of this, decisions about how best to proceed, including decisions about whether States prefer to require BRC waste streams to be disposed of in licensed low-level waste sites rather than sanitary landfills, are best left to the individual States. (2) There is an abundance of disposal capacity under development at the present time and, for this reason, the concern about husbanding limited disposal capacity no longer appears to be relevant. Indeed, the decision to permit the Rocky Mountain compact to dispose of radium waste in its regional disposal facility seems to suggest that the objective of preserving limited disposal capacity for the disposal of low-level radioactive waste is not the driving consideration.

Chairman Carr's Response to Commissioner Curtiss' Views on the BRC Policy Statement

I am proud of the Commission's accomplishment in completing a comprehensive Below Regulatory Concern policy statement. I appreciate Commissioner Curtiss' enthusiasm and strong support for the policy. Commission deliberation of such views has helped to forge a comprehensive risk framework for ensuring that the public is protected at a consistent level of safety from existing and future exemptions and releases of radioactive materials to the general environment. The framework should also be helpful in allowing NRC, States, and the public to focus resources on reducing the more significant risks under NRC's jurisdiction. I offer the following response to Commissioner Curtiss' thoughtful views in the spirit of the constructive process that has culminated in the BRC policy.

As with many of the issues that the Commission deals with, there were very few right and wrong solutions to the issues associated with the BRC policy. The Commission reached its decisions on the policy by selecting preferred solutions from among a spectrum of possible policy options. These decisions were made based on the Commission's technical analysis of the issues associated with regulatory exemptions, legal interpretation of governing legislation, and regulatory experience in approving exemptions since the birth of civilian uses of nuclear materials in the 1950's. I believe Commissioner Curtiss' views on selected issues constitute part of the continuous spectrum of policy options. However, for the reasons articulated below, I affirm the Commission's decision to approve the policy statement in its present form and reject the differing views put forth by Commissioner Curtiss.

Commissioner Curtiss clearly endorses the policy and the concept of establishing a comprehensive framework for making decisions on regulatory exemptions. However, he takes issue with five elements of the policy: (1) the interim nature of the 1-millirem-per-year criterion for practices with widespread distribution, (2) selection of the 1000-person-rem-per-year criterion for collective dose, (3) the manner in which the Commission views the BRC criteria as a "floor" to ALARA, (4) omission of the principle of justification of practice, and (5) making BRC rules an item of compatibility for Agreement State programs. These issues were fully considered by the Commission and the NRC staff in the course of developing the BRC policy. Indeed, Commissioner Curtiss voted in September 1989 to approve the BRC policy, the essence of which is preserved in the final BRC policy in today's notice.

Interim Individual Dose Criterion

On the first issue, Commissioner Curtiss would prefer to establish the 1-millirem-per-year criterion as a final criterion, rather than an interim value.

As stated in the BRC policy, the Commission is establishing the 1-millirem-per-year criterion as an interim value until after it develops more experience with the potential for individual exposures from multiple licensed and exempted practices. The widespread practices to which this criterion applies are primarily consumer products, which could involve very small doses to large numbers of people. The 1-millirem criterion was selected specifically to address the possibility that members of the public may be exposed to several exempted practices.

Simply put, exposure of an individual to a handful of exempted practices could result in annual doses close to 100 millirem if each practice were allotted individual doses up to 10 millirem per year. This is highly improbable given the Commission's plans to closely monitor any overlap of exposed populations from exempted practices as well as the aggregate dose to the public from exemptions. Nevertheless, NRC does not presently know how many exemption requests will be submitted by the public, how many will be approved, and what types of doses will be associated with the exemptions. If few exemptions are requested and granted, the probability of multiple exposures from exempted and licensed practices exceeding a substantial fraction of 100 millirem per year is considerably reduced. Therefore, the 1-millirem-per-year criterion may be too restrictive and the regulatory resources associated with its implementation may be better spent to control more significant risks. Consequently, the 1-millirem-per-year criterion was selected as an interim individual dose criterion to ensure that the sum of all exposures to an individual from exempted practices does not exceed a substantial fraction of 100 millirem per year. This criterion will remain an interim value until after the Commission gains experience with the potential for multiple exposures to exempted and licensed activities.

The initial rulemakings to implement the policy, particularly in the area of consumer product exemptions, should provide valuable insights into the validity and appropriateness of the 1-millirem criterion in terms of its need to protect the public against multiple exposures to nuclear materials. Although I agree with Commissioner Curtiss that a final criterion would be desirable from the standpoint of "administrative finality," it would be premature to establish the 1-millirem criterion as a final criterion until after the Commission gains more experience

with exemptions of practices with widespread distribution.

Collective Dose Criterion

Commissioner Curtiss would have preferred to adopt a collective dose criterion of 100 person-rem/year because of his view that this value is more consistent with the prevalent technical view on this matter.

For the reasons discussed below, I believe that a collective dose criterion of 1000 person-rem/year is more consistent with the prevalent technical view on this matter and provides a sounder regulatory basis for making exemption decisions. The Commission considered two fundamental questions associated with the collective dose criterion: (1) is there a need for a collective dose criterion and, if so, (2) what should the value of that criterion be?

The Commission initially questioned the very need for a collective dose criterion for the types of practices that would be considered as potential candidates for exemption. This questioning was based on a number of factors that indicated that the Commission may not need to consider collective dose in making exemption decisions. These factors included:

1. There is considerable uncertainty associated with the validity of risk estimates based on projections of collective doses composed of small to very small doses to large numbers of people.

2. The individual dose criteria of 1 and 10 millirem per year, coupled with the other provisions of the policy (e.g., broad definition of practice), should ensure a consistent and adequate level of protection of members of the public from all exempted and licensed practices.

3. Although collective dose has been considered in valuating environmental impacts and in assessing the effectiveness of licensee ALARA programs, NRC's regulatory program has not traditionally placed specific constraints on collective doses associated with regulated activities.

4. Based on comments submitted to the Commission on its proposed BRC policy, including comments presented by the Health Physics Society, the prevailing technical view opposed adoption of a collective dose criterion in the BRC policy.

Despite these considerations, the Commission also recognized the benefit of a collective dose criterion in limiting the total population dose associated with exempted practices and in evaluating environmental impacts and the effectiveness of ALARA programs. Consequently, the Commission decided to establish a collective dose criterion as a part of the BRC policy, provided that it was based on valid scientific analysis and that it did not constrain decisions on exemptions without an adequate health and safety or environmental basis.

Based on these provisions, the Commission selected the value of 1000 person-rem/year as a level of collective dose that ensures less than one health effect per practice. In selecting this value, the Commission relied on contemporary recommendations of expert national and international bodies. These included the 1988 conclusions of the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR) that collective dose calculations only provide reasonable estimates of health risks if the collective dose is at least of the order of 10,000 person-rem. This value is an order of magnitude greater than the value of the collective dose criterion selected by the Commission. UNSCEAR also stated that the most likely outcome of collective doses on the order of a few hundred person-rem is zero deaths.

The Commission also considered the magnitudes of collective doses associated with practices, primarily consumer products, that have already been exempted by the Commission. This was done to provide a benchmark for the value of the collective dose criterion based on historical decisions that the public found acceptable. The Commission found that the magnitudes of the collective doses for these exempted practices fell in the range of the 1000 person-rem/year dose. Specific examples include 1200 person-rem/year from watches whose dials are adorned with paint containing tritium, 800 person-rem/year from smoke detectors containing radioactive materials, and 8600 person-rem/year from gas mantles for lanterns that contain thorium (NCRP Report No. 95).

In addition, the Commission considered the magnitude of collective doses associated with licensed activities such as discharge of effluents from nuclear power plants. The Commission established ALARA design objectives for effluent treatment systems for power plants in Appendix I to 10 CFR Part 50. The Commission noted that the dose values established in the design objectives are generally consistent with a collective dose criterion with a magnitude of 1000 person-rem/year. However, the Commission also recognized that licensees have performed better than required in accordance with Appendix I by reducing estimated collective doses from reactor plant effluents to 110 person-rem per year in 1986, which is the most recent year for which the data have been completely assessed (see NUREG/CR-2850, Vol. 8).

Finally, the Commission and its staff are only beginning to evaluate specific details of how the BRC policy will be implemented through subsequent rulemaking and licensing decisions. Even at this preliminary stage the Commission has identified substantive implementation issues pertaining to the application of the collective dose criterion. For example, an issue has been identified regarding how the collective dose criterion would be applied in making decisions about appropriate levels o

cleanup for contaminated sites. Specifically, does the collective dose criterion apply generically to the practice of decommissioning or would it be applied on a site-specific basis? Similarly, how should the collective dose criterion be applied in cases where nuclear operations have contaminated groundwater resources that could potentially supply municipal drinking water systems? Resolution of these and other issues could cause the Commission to revise its selection of the magnitude of the collective dose criterion through future rulemakings and development of generic guidance. However, based on the technical information and recommendations currently before the Commission, 1000 person-rem/year appears to be an appropriate magnitude for the collective dose criterion.

For all of these reasons, the Commission established a collective dose criterion of 1000 person-rem/year for each practice.

ALARA

Commissioner Curtiss would prefer to define the individual and collective dose criteria as "floors" to ALARA, that is, that the regulated community and NRC are relieved from the regulatory obligation to perform further ALARA analyses below these levels if individual doses are 1 millirem/10 millirem and the collective dose is 100 person-rem. Specifically, Commissioner Curtiss believes that the BRC policy sends a confusing message by encouraging voluntary efforts to achieve doses below the BRC criteria.

In responding to Commissioner Curtiss' view on this issue, it is important to begin from the definition of the term ALARA. ALARA is the regulatory concept that radiation exposures and effluents should be reduced as low as is reasonably achievable taking into account the state of technology, and the economics of improvements in relation to the benefits to public health and safety and other societal and socioeconomic considerations, and in relation to the utilization of atomic energy in the public interest (10 CFR 20.1(c)). The ALARA concept is one of the fundamental tenets of radiation protection and has been a keystone in NRC's regulatory framework. Public comments on the proposed BRC policy statement and on proposed revisions to 10 CFR Part 20 urged the Commission to define "floors" to ALARA or thresholds below which NRC would not require further reductions in doses or effluents.

The Commission responded to these comments in the policy by stating that ". . . a licensee using the exemption would no longer be required to apply the ALARA principle to reduce doses further for the exempted practice provided that it meets the conditions specified in the regulation" established for a particular exemption. In other words, the BRC criteria and implementing regulations will provide "floors" to ALARA for the exempted practice. In this regard, I agree with Commissioner Curtiss because the truncation of further efforts to reduce doses is one of the principal regulatory motivations for establishing the BRC policy.

However, I disagree with the rest of Commissioner Curtiss' view on this issue. It would be inappropriate to tell the regulated community that they cannot reduce doses below the BRC criteria. In short, although we will not require licensees to reduce doses further, we do not want to discourage their efforts to do so either. This would be tantamount to telling a licensee how to operate his or her business regardless of whether any health or safety issues are involved. Such a direction would be inappropriate because it clearly falls outside of the health and safety focus of the NRC.

In formulating the BRC policy, the Commission recognized that new technologies being developed today promise to reduce doses, and therefore risks, at lower costs than present technologies. Indeed, technological and cost considerations are explicitly recognized in the definition and application of the term "ALARA." Thus, I believe it would be inappropriate to tell licensees that they cannot implement new technologies and health physics practices to further reduce doses if they want to.

Justification of Practice

Commissioner Curtiss would prefer to endorse the principle of justification of practice (i.e., whether the potential impacts of a practice are justified in terms of net societal benefits) and retain the prerogative to reject applications for exemptions regardless of the risk they pose.

I disagree with Commissioner Curtis' view on this matter because it puts the Commission in a position of making decisions in areas outside the normal arena of its expertise, where the agency would be especially vulnerable, perhaps justifiably so, to criticism. Consistent with the mission of the NRC, the Commission should base its judgments on an explicit, objective, and rational consideration of the health, safety, and environmental risks associated with practices, rather than on what many would perceive as personal preferences of the Commissioners. Such an approach fosters long-term stability in regulatory decisionmaking on potential exemptions.

Decisions on justification of practice involve social and cultural considerations that fall outside the Commission's primary focus and expertise for ensuring adequate protection of the public health and safety from the use of nuclear materials. Such decisions should be made by affected elements of society, such as residents near a contaminated site, potential customers, suppliers, and other members of the general public, rather than NRC. I believe that this position is consistent with regulatory practices of other Government agencies that generally do not regulate on the basis of whether a particular practice is

justified in terms of net societal benefit. For example, to the best of my knowledge, the Environmental Protection Agency does not question whether the generation of hazardous wastes is justified in terms of net societal benefit, even though the agency promotes the minimization and elimination of such wastes to reduce risks.

I believe that Commissioner Curtiss misinterprets the BRC policy when he claims that it embodies a bifurcated approach on the principle of justification of practice. As clearly indicated in the policy, the Commission may determine that certain practices should not be considered candidates for exemption on the basis of risk estimates or associated uncertainties. Rejection of such an application should be based on the risks posed by the practice, rather than whether the practice is justified in terms of net societal benefit. The types of concerns he raises about risks to children and the general public would be critically evaluated by the Commission in rulemakings to determine whether particular practices should be exempted. Therefore, I believe that the Commission has established an appropriate BRC policy that does not consider whether a proposed practice is justified in terms of societal benefit.

Agreement State Compatibility

Commissioner Curtiss also disagrees with the Commission majority view on the need for uniformity between basic radiation protection standards established by NRC and Agreement States. He indicates that he would not treat the Commission's policy on below regulatory concern as a matter of compatibility for Agreement States with respect to disposal of commercial low-level radioactive waste. He reaches this conclusion in part because he reads the Low-Level Radioactive Waste Policy Amendments Act of 1985 as giving States a great deal of latitude in deciding how to proceed with the development, construction, and operation of new low-level waste disposal facilities. Drawing upon this interpretation, he concludes that individual States should be allowed the option of deciding whether low-level waste designated BRC should be disposed of in a licensed low-level radioactive waste disposal facility.

This policy statement in and of itself does not make any compatibility determinations; as indicated in the statement, compatibility issues will be addressed in the context of individual rulemakings as they occur. But I believe it is important to respond to Commissioner Curtiss on this issue in two respects. First, I do not read the Low-Level Radioactive Waste Policy Amendments Act as giving the States particular latitude let alone specific authority in the area of waste to establish radiation standards different from those of the Commission. Second, I do not believe that the issue of BRC for waste disposal can easily be divorced from BRC in other areas such as decommissioning.

The Low-Level Radioactive Waste Policy Amendments Act did not change the regulatory framework applicable to Atomic Energy Act materials. On the contrary, the Act specifically recognized the importance of that framework by including provisions such as the following:

> Sec. 4(b) . . . (3) EFFECT OF COMPACTS ON FEDERAL LAW.—Nothing contained 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 radioactive waste in a manner incompatible with the regulations of the Nuclear Regulatory Commission ...;
>
> "(B) to regulate health, safety, or environmental hazards from source material, byproduct material, 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 any Federal law or to diminish or otherwise impair the jurisdiction of any Federal agency, ...

Unlike the Uranium Mill Tailings Radiation Control Act of 1978, as amended, the Low-Level Radioactive Waste Policy Act, as amended, does not authorize States to establish more stringent standards. The Act also specifically directed the Commission to establish standards for exempting specific radioactive waste streams from regulation due to the presence of radionuclides in such waste streams in sufficiently low concentrations or quantities as to be below regulatory concern. If, in response to a request to exempt a specific waste stream, the Commission determines that regulation of a radioactive waste stream is not necessary to protect the public health and safety, the Commission is directed to take the necessary steps to exempt the disposal of such radioactive material from regulation by the Commission. Thus, the Act did not, in my view, grant any particular latitude to the States to determine which waste streams were of regulatory concern. Rather, it reaffirmed the existing roles of the NRC and the States in determining regulatory standards for low-level waste and specifically defined the Commission's authority in this regard as including designating waste streams which are below regulatory concern.

The respective roles of the Commission and the States with respect to the licensing and regulation of Atomic Energy Act materials, including the disposal of low-level radioactive waste received from other persons, are governed by the provisions of Section 274 of the

Atomic Energy Act of 1954, as amended. Absent the execution of a Section 274b Agreement with the NRC, a State is preempted by Federal law from exercising regulatory authority over the radiological hazards of these materials. The Commission is authorized to enter into an agreement with a State only upon a finding that the State program is compatible with the Commission's program for regulation of radioactive materials and adequate to protect the public health and safety. Section 274d.(2). The legislative history of Section 274 stresses throughout the importance of and the need for continuing compatibility between Federal and State regulatory programs. In comments on the legislation, the Joint Committee on Atomic Energy (JCAE) stated that

> 5. The Joint Committee believes it important to emphasize that the radiation standards adopted by States under the agreements of this bill should either be identical or compatible with those of the Federal Government. For this reason the committee removed the language 'to the extent feasible' in subsection g. of the original AEC bill considered at hearings from May 19 to 22, 1959. The committee recognizes the importance of the testimony before it by numerous witnesses of the dangers of conflicting, overlapping and inconsistent standards in different jurisdictions, to the hindrance of industry and jeopardy of public safety.

Sen. Rept. No. 870, September 1, 1959, 86th Cong., 1st. Sess.

The potential problems from conflicting standards identified by the JCAE in 1959 are fully apparent in the context of BRC and demonstrate why the scope of compatibility findings to be made by the NRC cannot be drawn to exclude low-level radioactive waste disposal. For instance, the Commission intends to use the risk criteria identified in the policy statement to establish decommissioning criteria, that is, the level at which a formerly licensed site may be released for unrestricted use. 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 that would be adequate to assure that all licensed facilities will set aside sufficient funds over the life of a facility to pay for decommissioning. The resulting confusion from these conflicting standards could well result in delays in adequate decommissioning of contaminated sites and certainly in unnecessary concern on the part of the public. I consider believe that reserving to the NRC the authority to establish basic radiation protection standards, including designating which waste streams are below regulatory concern, is fully justified to ensure an adequate, uniform and consistent level of protection of the public health, safety and the environment.