



# NRC NEWS

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## **ENVIRONMENTAL JUSTICE - A GROWING FACTOR IN RADIOLOGICAL PROTECTION OF THE ENVIRONMENT**

Presented by

**The Honorable Greta Joy Dicus  
Commissioner  
U.S. Nuclear Regulatory Commission**

at the

Third International Symposium on the Protecting  
of the Environment from Ionizing Radiation

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Good morning. It is a pleasure for me to be here today to help start off the Symposium's timely discussion of Protection of the Environment from Ionizing Radiation. I am sure some of you attended the Forum in Sicily earlier this year that addressed Radiological Protection of the Environment. When I spoke at that Forum, I focused my comments on several areas, including the development of radiological protection regulations in the United States, the many agencies and branches of government involved in environmental issues, the challenges of maintaining good communication between agencies and the public, the difficulties in finding a path through the morass created by dual regulation, and the emerging challenges to create internationally accepted uniform standards for addressing radiological issues. Today, I would like to expand on a new concept, which I mentioned only briefly in February, that has introduced significant uncertainty in the US legal framework for environmental evaluations and has the potential to make evaluations of environmental impacts much more complex. This relatively new concept is called "Environmental Justice."

However, before discussing Environmental Justice as it is defined and being implemented in the U.S., I will very briefly review with you how our Federal Government reviews major actions that could affect the environment. For over three decades, the Federal government in the United States has reviewed major actions that could affect the environment under the process set forth in the National

Environmental Policy Act of 1969 (NEPA). Most of the individual states within the United States have comparable legislation governing state level actions. While some individual environmental evaluations may have remained controversial, the last few decades has seen most government agencies develop an understanding of the basic process for preparing environmental evaluations. Under NEPA, "major federal actions significantly affecting the quality of the human environment" must be accompanied by a detailed environmental impact statement that serves to inform the decision-maker of the potential negative impacts, benefits, and need for the proposed action. NEPA itself does not dictate that any particular balance of benefits versus costs is necessary for ultimate approval of a particular project, but rather constitutes a full disclosure process so that the responsible authority is fully informed prior to finalizing its decision. In the NRC process, members of the public may comment on draft Environmental Impact Statements published for comment and, by meeting certain standards for participation, may participate in a formal proceeding challenging the completeness and accuracy of the proposed Environmental Impact Statement. There are many specific pitfalls and procedural requirements that make hearings on NEPA issues in the United States complex, but what I've just described is a good overall summary of the process.

This relatively predictable process was complicated in 1994 when President Clinton issued an Executive Order introducing the concept of "Environmental Justice" with respect to environmental analyses. Ostensibly not creating any new requirements, this Executive Order directed Executive Agencies to include in environmental analyses a specific consideration of any disparate impact of proposed actions on minority and low-income populations in the United States. Although, as an independent agency, NRC was not required to follow the Executive Order, it followed its traditional approach of voluntarily attempting to meet the intent of the Executive Order to the extent possible.

The concept of Environmental Justice is new to the NEPA process. The underlying concept is inherently laudable. Its goal was to assure that minorities and the financially disadvantaged were not bearing a disproportionate share of environmental impacts from government approved activities. Given the expense of challenging proposed government actions, there is a logic to assuring that those least able to afford challenging actions are not penalized because of those financial limitations.

The IAEA recently published a discussion report that raises, among other ethical considerations of radiological protection of the environment, the issue of Environmental Justice.

As I understand the issue of Environmental Justice as described by IAEA, it is somewhat different than the concept in the U.S. The IAEA concept, like the 1992 Rio Declaration, relates to issues such as liability, and compensation. It considers the balance between benefits and detriment by redistributing the "benefits of actions or policies" or demand compensation for detriment. It further encompasses direct and indirect harm to humans and harm to the environment including inhabitants and habitants. Environmental justice in the U.S. is directly related to socio-cultural protection of disadvantaged and minority populations.

The difficulty is in trying to implement this new concept into the established process for environmental reviews. In general, United States federal agencies have not yet reached a comfort level as to how best to apply the concept of Environmental Justice to evaluations of proposed actions. This is not the traditional environmental review that looks at potential releases and provides an evaluation of the impacts of the proposed project on hypothetical individuals. We all, at least, had some comfort level in looking at potential radiation doses and determining potential impacts on humans and the environment. We have not, however, developed concepts of radiological impact that focus on ethnic or

monetary subgroups of affected populations. Initial attempts by NRC to apply this concept quickly demonstrated the difficulty and pitfalls of this new element of environmental reviews.

For example, in one NRC case involving the licensing of a proposed centrifuge enrichment facility, there was an environmental justice concern introduced in the environmental hearing, addressing the expected blocking of a route between some local residences and a local church. The residences affected were in a low income area and many of these individuals did not own cars. The location of the proposed facility rendered the route for walking to a particular church unavailable and alternatives for walking to the church were significantly longer. Ultimately this project was abandoned for a variety of reasons before this particular issue was resolved. It was the first time the issue of Environmental Justice was raised and might have proven to be difficult to resolve.

Although still in litigation and not appropriate for detailed comment given the Commission's role as the ultimate reviewer, an ongoing NRC proceeding is considering the question of whether there can be a subgroup of a minority group. Specifically, we have a group of Native Americans claiming they are entitled to Environmental Justice consideration because they believe the Tribal Government will not fairly distribute profits from a proposed NRC licensed facility within the tribe. The concept of subgroups within recognized minorities and/or low income groups could further complicate environmental evaluations.

What does this mean to those of us who must conduct these evaluations? It means we must ask a different set of questions and apply our health physics and environmental expertise in an expanded and more complex manner. The NRC has developed some guidance for its staff following our initial experiences with applying the concept of Environmental Justice. From this guidance I'd like to note a few of the elements considered in evaluating the question of whether there are disparate impacts on minorities and the poor, when evaluating a potential radiation-related activity.

The first need is to gather information on the populace around a proposed facility. After identifying the minorities and low income groups that are affected by the proposed facility, one must compare their representation within the affected group to that of the larger population. In the United States that can be done by looking at the state population demographics, or several states where the facility is located near state borders, and determining whether there is a higher percentage of a minority and/or low income group in the affected population than in the general population.

The next part of the evaluation must be to determine the impacts on these minority and/or low income populations, as compared to the rest of the affected population. For example, if the poor are more likely to eat fish and game from the affected area, eat locally grown food, or grow their own, it must be determined if this results in a higher radiological impact than for the rest of the affected population.

In the United States such evaluations are not limited to health and safety impacts. Cultural impacts are also considered under NRC guidelines. The example of the affect on access to a church that I mentioned earlier is one example, as would similar access issues related to the ability of the poor and/or minorities to easily reach businesses or work locations. With respect to Native American Tribes, considerations of ancient burial grounds and areas that are considered sacred to the tribes culture must also be considered.

In the United States we also will include potential benefits to these same groups. Our evaluations will consider the financial benefits to minorities and/or low income groups from increased

job opportunities and potential increases in property values from the proposed facility. Finally, the evaluation will consider what actions can be taken to mitigate any negative impacts on these specific groups and whether alternative sites may be available for the facility that would have less impacts.

Clearly, as professionals involved in considering the impacts of activities involving radiation that affect the environment, we have a significant role in looking at these types of issues. We are quite capable of providing an evaluation of potential health impacts, based on current knowledge, for an individual who is exposed to a level of exposure from a facility. We are even capable of looking at a worse case scenario and assuming maximum ingestion of locally-grown food or maximum time living and working in the affected area. For example, NRC has included suppositions in some of its evaluations that included individuals having a substantial intake of locally grown food or assuming the affected population is represented by the individual living closest to the facility. Comparing impacts on different populations within the same area, however, is a far more challenging endeavor and will require that we become more knowledgeable about cultural specifics within various affected population groups. In the future, when we ask a question about radiological impacts, we may have to concern ourselves with non-health non-environmental impacts not previously considered. These will present new challenges for us, but will perhaps allow a more complete and meaningful understanding of the impacts of the projects we are considering. While the goal of assuring no one group must shoulder the burden of government projects is laudable, the implementation of Environmental Justice as a method for reaching that goal presents new and complex challenges for the future.

Today's presentations and others during this symposium concern the science of radiation impacts on the environment. Our radiation protection standards and are our regulatory requirements are based generally on the best available science. They are therefore dependent on the work of scientists - the studies, the findings and the interpretations of those findings. Sooner or later, in some fashion, proven out comes will become part of a radiation protection scheme.

But science is only part of the equation. Political and socio-economic factors are also parts of the equation and in the decision making process could take precedence over the science. Environmental justice is an example.

I suggest that it is incumbent on those of you primarily involved in the science to give those of us primarily involved in policy and political arenas the best foundation possible to balance the equation to give science a very strong voice. I wish you good luck and to the organizers of this symposium, thank you and I wish you a successful venture in the next four days.

Thank you.