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Remarks by
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U. S. Nuclear Regulatory Commission
before the
Advisory Committee on External Regulation of
Department of Energy Nuclear Safety
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INTRODUCTION

Dr. Ahearn, Mr. Scannell, distinguished members of the advisory committee, I am pleased to be here this morning to discuss with you my personal perspective on external regulation of nuclear safety in the Department of Energy. Your deliberations are an integral part of the inevitable shift from the Cold War to a new era in nuclear technology. I believe your task is extremely important to the nation and am pleased that you have provided me with the opportunity to present my view on this topic.

First let me say that although I support independent safety regulation at nuclear facilities, I take no position on the specific question of whether external regulation of DOE nuclear safety is warranted. The decisions as to whether DOE facilities should be externally regulated, and by whom, are largely political decisions outside the responsibilities of the Chairman of an independent regulatory agency. However, it is important that external regulation not be viewed as supplanting the responsibilities or resources of the operator -- the Secretary of Energy --who will continue to have overall safety responsibility even for DOE facilities subject to external regulation. Furthermore, the Defense Nuclear Facilities Safety Board should continue to provide independent advice to the Secretary for weapons facilities.

What I intend to provide to you this morning is a regulator's perspective on a systematic method for identifying those facilities that deserve the most attention and resources, and which are candidates for more rigorous regulation, whether

internally by DOE or externally by NRC or other regulatory agencies.

I'll start by discussing the fundamental tenets that are key to the integrity of a regulatory program for DOE facilities; then describe a basic framework for identifying those facilities that are the most appropriate candidates for more rigorous regulation; finally, I would like to discuss briefly several other considerations relevant to external regulation, such as funding of the regulatory effort and enforcement policy as applied to the regulation of Federal facilities.

FUNDAMENTAL TENETS

The discussion of external regulation of DOE nuclear safety should start from three fundamental tenets that are key to a safe, effective, and credible program of nuclear safety: 1) no change should be made to the existing regulatory environment at DOE facilities unless that change promises significant health and safety improvement, 2) some semblance of the historic separation of military and civilian uses of nuclear energy and materials should be respected, and 3) any changes to the existing regulatory environment should have as their objective the development of a strong nuclear safety culture.

First, to be worthwhile, change to the existing regulatory environment for DOE facilities should result in a demonstrable improvement in the protection of public health and safety or the environment. It is not often that external regulation in and of itself is the answer to improving protection of public health and safety. More likely, the need is not so much external regulation but more resources; this is certainly the case at some DOE facilities. In such cases external regulation might add little to safety unless the needed resources are provided first.

The second tenet relates to the historic separation of military and civilian uses of nuclear power, formalized in the Energy Reorganization Act of 1974. I leave it to my colleagues in the Defense community to decide how useful it has been on the military side, but I can attest to its value for the civil nuclear programs, where the greatest benefit has been the public confidence gained from the awareness that NRC's role of protecting public health and safety was not compromised by production schedules or national security demands.

However, the end of the Cold War and the recent emphasis on decontamination and decommissioning of contaminated defense-related sites have begun to blur the past sharp segregation between the regulation of military and civilian nuclear applications. So it is perhaps an appropriate time for this committee to reconsider whether the present division should be modified to reflect current times.

The third tenet is how changes in regulation might affect the operator's commitment to safety -- the operator's "safety culture." I believe that this strong commitment to safety is the principal reason for the outstanding safety record of civilian nuclear power.

Although a regulatory agency cannot create an operator's safety culture, the regulator can provide the framework for developing this culture by defining standards for safety and excellence in licensee operations and by evaluating licensee performance against those standards.

A robust safety culture consists of three principal components. The first component is technical excellence and operational safety -- first and foremost, the responsibility of facility owners, managers and operators. Although I believe that tough-minded, independent regulation is vital to reinforcing excellence, no amount of external regulation can compensate if the licensee's commitment to safety is inadequate. A second component is a solid economic base and a commitment to long-term funding sufficient to underwrite high-caliber training programs and sustained investment in maintenance and equipment. The final component is sound organization and management, which includes appropriate staffing, rigorous training, realistic goals, and responsible leadership. Essential to this component is a safety-conscious culture in which employees are rewarded for identifying and resolving safety issues promptly -- a culture in which they may do so without fear of retribution.

Following decades during which safety competed with national security concerns and during which changes in the Administration and national priorities frequently resulted in changing priorities at DOE nuclear facilities, it is unclear whether a robust safety culture exists at all DOE facilities.

TAXONOMY OF DOE NUCLEAR FACILITIES

Given these three tenets, I believe that each DOE facility, or each class of facility, should be subject to two considerations: what level of radiological risk to public health and safety does the facility pose and what type of regulation of these facilities is most appropriate. Therefore, DOE facilities should be classified based on their risk to health and safety and on their lifecycle stage -- decommissioning, operational, or planned.

The first and highest level of risk is associated with those facilities for which there is the possibility of a significant accident and, as a result, significant off-site releases. Examples of these facilities include the tanks holding high-level waste at Hanford and Savannah River, spent fuel stored at Hanford and INEL, and the entire Rocky Flats facility.

The second level of risk includes those facilities that present lower risks but for which there is still a significant potential for off-site releases or serious environmental degradation. Examples of this type of facility are the separation facilities at Savannah River and the Oak Ridge Y-12 plant.

Finally, the lowest category of risk to public health and safety includes many facilities undergoing decontamination and decommissioning for which there is minimal potential for off-site releases or environmental degradation. Examples of this category are the remediation of Fernald, the Battelle Columbus Labs and Princeton Plasma Physics laboratory.

Those facilities presenting the greatest risk should be the focus of resources, both money and people, and are most likely to benefit from more rigorous regulation because they offer the largest potential gain in public health and safety protection. However, if more rigorous regulation looks to be beneficial to health and safety, there remains the question as to what form this regulation should take -- full scope or some lesser form of regulation. The most appropriate form of regulation for DOE facilities will be dependent on their lifecycle stage. In particular, DOE facilities can be grouped into three lifecycle stages: facilities undergoing decommissioning and decontamination; operating facilities; and new facilities.

Almost all DOE facilities representing the highest risk are in the decommissioning lifecycle stage -- this category includes facilities such as the Hanford high-level waste tanks, which present a significant potential for accidental and large off-site releases. Because these facilities are in various stages of decommissioning, full scope licensing of the high risk facilities may not be efficient. A more appropriate regulatory model, be it applied externally or internally, might be that used by NRC in overseeing DOE activities under Title I of the Uranium Mill Tailings Radiation Control Act of 1978. Under that Act, NRC concurs with DOE's selection and performance of remedial action at inactive mill sites. Once remedial actions are completed, the NRC licenses sites for long-term care under a general license.

The second lifecycle stage consists of operating facilities, including the gaseous diffusion plants operated by the U.S. Enrichment Corporation (USEC) and research reactors at DOE national laboratories. The risk to public health and safety and the potential for offsite releases vary for these facilities. More rigorous regulation might be beneficial for some, but should be considered on a case-by-case basis. However, because these facilities are already built and have been operating for decades, regulatory options for ensuring safety of operations are limited. In the case of USEC the type of regulation was dictated by statute. As I will note later in my remarks, although I have some concerns with the USEC model, full-scope licensing would be

too burdensome and expensive.

The third lifecycle group of DOE facilities are those facilities yet to be built. Many of these facilities, such as waste vitrification plants, a high-level waste repository, or a new production reactor, would represent significant potential risks to public health and safety. Moreover, because these facilities have yet to be designed and built, they are most amenable to external regulation. In the case of the high-level waste repository, external regulation is already being applied. For these facilities, a full-scope licensing process would be appropriate.

In short, a two-dimensional facility classification scheme -- risk level and lifecycle stage -- would help you organize the task at hand.

I now would like to digress for a moment and address DOE's Baseline Environmental Management Report in which DOE has estimated a base-case cost of approximately 230 billion dollars over 75 years to decommission DOE nuclear facilities without remediation. Although I commend the Department for addressing its problems so frankly and comprehensively, the report errs in that it groups facilities with varying levels of risk into one package and considers priorities as a function of program funding and schedule. As a result, the public becomes concerned about the hopelessness and high cost of decommissioning and the Congress throws up its hands in frustration and cuts clean-up budgets arbitrarily. The opportunity for a more realistic approach to a set of truly sobering safety challenges is lost. To avoid these negative outcomes, the remediation of the various facilities should be prioritized in terms of the risk they pose to public health and safety so as to address the imminent hazards first with almost all of the available money. Decommissioning of the facilities could be staggered over a number of years and addressed systematically based on their risk levels -- imminent threats of accidents, next serious and growing environmental risks, and last long-term environmental risks. In this way both the public and Congress can be reassured that money that is being spent is addressing those facilities that pose the greatest risk to health and safety.

OTHER CONSIDERATIONS

There are two other factors that I will address today. First, with competing priorities and Federal budget constraints, questions arise as to how the funding of the external regulation will be financed, and second, for facilities that are regulated by the certification process, some mechanism, other than revocation of the certification, must be developed for compelling compliance with regulations.

Licensing and regulatory authority over DOE facilities would

require substantial additional investment of both people and dollars. The objective of external regulation is improvement in the protection of public health and safety or the environment, not lower cost. Variable funding levels could limit the regulatory agency's ability to hire, develop, and retain competent experts needed to conduct safety reviews in licensing and inspecting complex facilities. Therefore, a long-term, sustained commitment to sufficient funding is vital to ensuring effective and credible regulation and protection of the public, workers, and the environment. For NRC, as a fee-recovery agency, any move to give us additional responsibility for regulating DOE facilities must be funded over and above our baseline budget for regulating commercial nuclear facilities and materials.

The next issue relates to sanctions and deterrents available to the regulator. The USEC certification process is limited to denying or suspending the certification of the facilities. Therefore, there is no mechanism to compel compliance with the regulatory requirements short of certification suspension. Similar concerns are also present in the case of enforcement against a licensee in the decommissioning lifecycle stage. The ultimate civil enforcement tool is revocation of a license. Licensees in decommissioning situations do not fear suspensions and revocations -- if anything they welcome this.

Threats of shutdown or large civil penalties are more powerful incentives to comply with NRC regulations in the commercial sector than they are for Federal agencies. NRC has issued civil penalties, orders, and other sanctions against Federal agencies for violations of the Atomic Energy Act and these sanctions have succeeded, in most cases, in compelling compliance. However, what does it mean to fine a federal agency? How could we, in good conscience, take resources away from a critical but already underfunded remediation program like Hanford? In considering external regulation of DOE facilities, the full range of enforcement sanctions must be available to the regulatory agency -- including suspending, or modifying authority -- to compel compliance and to maintain public credibility and independence.

In summary, the basis for the decision about external regulation should be whether external regulation will bring a significant gain in protection of public health and safety and the environment. Most DOE facilities that are candidates for shutdown or decommissioning fail this test yet among them are some of the riskiest, high-priority facilities -- Hanford and Savannah River high level waste, Hanford and INEL deteriorating fuel, and Rocky Flats plutonium. These facilities need ample resources, a sound remediation plan, and also, perhaps more rigorous regulation.

DOE operational military facilities (e.g., the Pantex facility) should not be considered for external civilian

regulation. Those DOE facilities that fall on the civilian side of the military-versus-civilian separation, that pose significant risk to public health and safety, and that are in operation now or new facilities are the most likely candidates for external regulation.

Most importantly, in considering possible shifts of responsibility, I hope you will take as your first priority strengthening those organizations within DOE that help the Department meet its safety obligations as facility operators, not gutting them.

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