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HEALTH PHYSICS SOCIETY PLENARY SESSION

"RADIATION REGULATION IN THE NEW MILLENNIUM"

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NRC REGULATION IN THE NEW MILLENNIUM

by

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INTRODUCTION

It is indeed a pleasure to participate in 44th annual meeting of the Health Physics Society. I have looked forward to this meeting because, first, these meetings are always a wonderful opportunity to revisit many of my friends and health physics colleagues and make new acquaintances, and second, Philadelphia is a wonderful city to visit having many historic and other treasures. My only regret is not being able to stay for the entire meeting and partake more of the interesting and varied agenda. Nonetheless, I hope to visit and speak with as many of you as I can.

The title of this session speaks of the millennium. This millennium has spawned the Y2K bug. The Y2K problem is an interesting phenomenon. It has nothing to do with the millennium but rather with the fact that many computers can't tell which century they are in because of the abbreviated calendar year notation used in their programs. Y2K is a real problem because we have become so dependent upon computers. It also has an surreal element. After all, the sole reason we have a Y2K problem now is because the Gregorian calendar is the commonly accepted means of accounting for time and is used by our computer programmers. Had our programmers used the Hebrew calendar instead, we would be in the year 5759 and this problem would be many years away. According to the Persian calendar, it is 1378. There would still be plenty of time had that system been used. Then, of course, there is the Chinese calendar in which this is the Year of the Rabbit. The coming year will be the year of the dragon. Consider, for a moment, the Chinese calendar. It is limited to a 12 year cycle but, had it been used, that problem would have emerged in a short time and presumably would have been fixed by now. Even more intriguing - it is a system with built in icons. None of them are bugs. Bill Gates would have loved it.

The purpose of these musings is to make the point that, aside from the Y2K problem, there is nothing significant for regulators about the imminent arrival of the next millennium. After all, the timing of the millennium is nothing more than the product of selecting the calendar system. What has been done by NRC, what NRC is doing now, and what NRC will do in the future has been, is, and will be influenced, not by the calendar, but by science, by public perceptions, and by the political process. These are the forces that mold and shape NRC's regulatory space.

Nonetheless, dates are important because they serve as milestones in the regulatory process. Time is important in

regulatory space, particularly with respect to the timeliness of regulatory decisions.

So, let us look at how the triumvirate of science, the public and the political process might affect the NRC as we enter the next millennium.

SCIENCE

At this and other sessions of this meeting, you will hear much about intriguing scientific research developments about radiation health effects. It is not impossible that the present LNT controversy may pale in comparison as we in the radiation protection community grapple with translating the implications of these scientific developments into radiation protection standards and radiation protection programs. Where will NRC stand in this regard?

Historically, NRC's regulatory approach for radiation protection has not developed in direct response to new scientific information on radiation health effects. Rather, it has depended upon a process in which independent bodies of experts evaluate information on radiation health effects and other bodies of experts, drawing upon this collective knowledge, develop recommendations for systems of radiation protection. The United Nations Scientific Committee on the Effects of Radiation (UNSCEAR), the Radiation Effects Research Foundation (RERF) and the U.S. National Academy of Sciences Committees on the Biological Effects of Ionizing Radiation (BIER) are examples of the former. The National Council on Radiation Protection and Measurements (NCRP) and the International Commission on Radiological Protection (ICRP) are the predominate examples of the latter. After considering these information resources, if the Commission agrees that revisions to NRC's radiation protection regulatory framework are needed, then the changes are proposed through a process that provides for public input. Finally, NRC is subject to statutory requirements to follow the standards for generally applicable radiation protection standards issued by the U.S. Environmental Protection Agency (EPA).

Will the new millennium see changes to this process? I, for one, would like to see some change, in particular, a steady and strong movement to harmonization of radiation protection standards nationally and internationally. The present patchwork quilt of radiation protection standards is a source of confusion, is wasteful, and does not enhance public confidence in our radiation protection programs. Harmonization of radiation

protection standards should be a high priority in the next millennium.

PUBLIC PERCEPTIONS

If harmonizing radiation protection standards should be a high priority in the next few years, then the public perceptions of the uses of nuclear materials and radiation, what is scientifically known about their potential hazards, and the acceptability of the resulting risks will be critical issues needing attention as well. Why? Because how the public perceives the uses of radiation, its hazards and the resulting risks will influence political decisions on the role of government in radiation regulation. Influencing public perceptions could be characterized as a challenge as we enter the next millennium but I prefer to see it as a opportunity, in particular, an especially important opportunity for the Health Physics Society. The Society's membership includes researchers, radiation safety officers and staff, regulators, managers - even Commissioners. We are the radiation protection experts.

The Society's activities in reaching out and forming public opinion about radiation have been innovative, credible and frequently successful and are a credit to individual members and to their boards and committees and chapters. That said, in my view, the potential of the Society is still to be fully tapped and focused on shaping public opinion about radiation. Much more can be and needs to be done. It is an opportunity that should be seized before it is too late.

THE POLITICAL PROCESS

It is through the political process that government regulatory space is created and shaped. The origins of NRC's regulatory space lie within the Atomic Energy Act of 1954. Amendments to that Act, other legislation and budget appropriations further define NRC's regulatory space. Within that regulatory space, Commissioners, who themselves are political appointees, determine agency policy and direction for NRC managers and staff.

The Atomic Energy Act of 1954 fulfilled a need for, and was a product of, that time. It has since been amended numerous times in response to changing public perceptions of needs to govern the use of nuclear materials and radiation and the resulting risks. Surely, as we enter the next millennium, it will be amended again. And, just as surely, as we enter the next millennium, the Commission will be asked to change policy and

direction for the agency. The question is, in response to whose voice will these changes be made?

President Truman, it is said, had a sign on his desk that said, "The buck stops here." In its way, it is the ultimate political statement about how the U.S. works. Whatever the scientists' and public's views are on radiation and its risks, it is the political decision making in the White House and in the Congress that fundamentally shapes NRC and other Federal government agency programs that regulate radiation hazards. The U.S. political process is itself a creation, specifically of its public citizens and it continues to be subject to the public's wishes even as the public's views evolve. In this context, the "public" is every one having an interest and a voice. That broad definition includes not only individuals but organizations. Thus, it includes you as an individual as well as employers, licensees, trade organizations, professional societies such as the Health Physics Society that you may be affiliated with. In other words, you may have more than one voice. If you have an opinion, you can influence the political process and the choices that are to be made and you probably have more than one voice with which to speak that opinion. And, so may others. The important thing is to find those voices and to use them effectively.

THE BOTTOM LINE

In conclusion, NRC radiation regulation can be expected to change in the new millennium. Science, public perceptions, and the political process will all have a role in this. Can you influence these changes? The answers are yes, you can and, yes, you should.

NRC is dedicated to revising and refining its regulatory programs to meet current and future needs in a cost effective manner. Examples include moving towards a risk-informed, performance based approach in our regulatory programs for reactors and materials, improving our license renewal program, and establishing standards for high level waste disposal. An integral part of these changes is increased stakeholder involvement. And, therein lie opportunities to influence NRC radiation regulation as we enter the next millennium.

We should speak out and write. We should speak and write as scientists and we should speak and write as members of the public. We should speak and write as individuals and we should speak and write through organizations such as the Health Physics Society.

We should vote. We should vote in national, State and local elections and we should vote in elections held by organizations such as the Health Physics Society and its chapters. Remember, when we vote, we vote not only for people but also for their visions.

We should volunteer. We should participate in outreach programs to our schools and we should participate in Society initiatives to enhance public understanding of radiation.

The bottom line is that while I cannot precisely predict what NRC's regulation of radiation in the next millennium I can say that it will be influenced by those who speak out now about the issues facing it. NRC's regulation of radiation could be what you think it should be. But for that to happen you must speak out and speak out now.