Notes from a Quarter Century
Behind the Green Curtain

Ruth F. Weiner, Ph.D.
WIPP Compliance Support Department 6747
Sandia National Laboratories

Abstract
Experiences as an environmental activist have produced some insights into addressing the current public over-reaction to environmental risks, and in particular to the risks posed by nuclear industry development.

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Ruth F. Weiner
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My years as an environmental activist began when my family joined the Sierra Club in 1964. We had two reasons for joining: to “Save the Grand Canyon” from hydroelectric dams, and to take family backpack trips. My husband and I helped establish the Rocky Mountain Center on Environment in order to preserve wild lands in the state of Colorado. I organized Colorado Citizens for Clean Air, and we wrote the 1970 Colorado Clean Air Act, as well as touring the United States to promote the 1967 and 1970 Federal Clean Air Acts. We were well entrenched behind the Green Curtain, only it wasn’t a curtain then. Most important to future developments, we were volunteers: ideologues, perhaps, but we didn’t receive professional recognition for conservation activities, and we sought no political power.

Oddly enough, the Sierra Club was, if anything, pro-nuclear, as were other environmental organizations. I can remember the angry reaction of the executive director of the Rocky Mountain Center on Environment when I questioned the value of the Rulison underground nuclear tests. The Sierra Club’s pro-nuclear stance was not the result of any environmental analysis, but was a reflection of public opinion at the time. In 1976 some of us put together a nuclear plant safety initiative in Washington State. I presented the initiative at an AIChE local meeting in Richland, and I was heckled on the average of every four minutes for more than two hours. Before 1979 and Three Mile Island, any question of the pre-eminence of the nuclear industry, or indeed any questioning of the growth of that industry, or even about anything nuclear, was definitely considered socially unacceptable, if not downright un-American. Nor did either the industry or the AEC or the fledgling Department of Energy do much in the way of widespread education and information. I was (and still am) a chemistry professor, and I can remember giving many talks about fundamental radiation physics and chemistry to citizens’ organizations. I volunteered my time, got classroom access at my university, and spoke using only a blackboard and chalk and my own developed lectures, with no assistance from the Federal government or any segment of the nuclear industry.

Questions that were asked of the commercial nuclear power industry or the weapons program were met with either silence or propaganda: I can remember asking about the Fast Flux Test Facility at Hanford and being told only that “it works.” The vaunted mistrust of the nuclear industry and the Department of Energy does, in fact, have a foundation that those organizations laid. I, for one, welcomed the change that came about after 1980, when my students could tour Hanford, when we had the first citizens’ advisory committee: the Hanford Citizens’ Forum, when I was made welcome at my first Waste Management meeting, and when we had perhaps the zenith of cooperation on nuclear matters, the 1982 Nuclear Waste Policy Act. The 1982 Act was supported by nearly everyone, including the Sierra Club.

What happened to the cooperation? How did we get where we are today? As best I remember, the Department of Energy opened up in about 1982, not 1993. Why didn’t the brief
détente between the nuclear industry and DOE and the environmental organizations last? There appear to be several reasons.

Environmental organizations, like many citizens' organizations, are great losers and relatively poor winners. "Winning" -- having the environmental cause prevail -- usually means putting the organizations out of business, or at least out of the particular business of the particular campaign. Members of activist organizations may have made the particular campaign the central, if not the only, focus of their lives, and life without the campaign seems dull and without glamour, particularly for the leading spokespersons. The glamour of a campaign is of course always enhanced by media attention: getting on TV is both fun and seductive.

Political power is heady stuff, and environmental activists aren't going to give it up readily. Nobody relinquishes political power readily or voluntarily. Many activists have made professional (paid) careers out of activism, and they are, understandably, working to keep their jobs. Therefore, in my opinion, the creation of sizable paid staffs by activist organizations has been a big mistake. The organizations were assisted in this mistaken move by the press, by elected representatives, and by the very bureaucrats whom they now malign. Press, politicians, and bureaucrats all want to deal with organizations during regular business hours, and are impatient with having to contact volunteers after hours and at the volunteers' convenience. So they require that organizations set up an office, and that office has to have at least one permanent employee, who then becomes very effective at preserving his or her job. Many anti-nuclear activists are acting primarily in their own interests, to keep their political power and, in some cases, their jobs. If this can be accomplished without bending the truth, great. If not, too bad.

Thoughtful answers to environmental activists' questions are complex and difficult, and therefore often unacceptable (or at least not accepted). Environmental science (including the environmental impacts of nuclear energy and weapons development) is complex and, like all science, is based on interpretation and analysis of observations that are influenced as little as possible by the observer. Moreover, like all scientists, the environmental scientist will see cherished beliefs and biases shattered by data. Many activists who are unaccustomed to this sort of world view are reluctant to accept such challenges to their perceptions. Even students of environmental sciences have trouble realizing that all energy conservation has environmental side effects, that any and all activity is risky, that an industrialized society has benefits as well as detriments, and that a "simple agrarian" life has distinct drawbacks. Examination of environmental issues, that are inherently complex, requires thoughtful analytical discourse by all participants. Slogans and "one-liners" bypass such discourse.

Finally, the Department of Energy and its civil servant employees make good scapegoats. Who is going to defend a bureaucrat? The flip side of this particular coin is that, in the eyes of the press, the more of a Luddite one is, the more courageous and credible one appears to be.

How can the nuclear science community respond appropriately? The following suggestions are not a panacea, but are based on two lessons learned behind that very Green Curtain. The first is that: when one is a political outsider, one must be prepared for many defeats before one sees even a small victory. The second lesson is the analogy of the swinging pendulum: the
environmental movement of the 1960s and 1970s believed that the pendulum of public policy had swung too far toward industry and resource consumption, and consequently gave that pendulum a violent shove away from the industry view. Unfortunately, the pendulum is now at the other extreme of exaggerated risk and risk avoidance. The anti-nuclear and environmental activists, when they were outsiders, fell into the trap of adopting the distortion and propaganda practices of the polluting, resource-consumptive, and nuclear industries. Unfortunately, many industries and environmental organizations continue that practice.

The real questions about pollution and conservation are lost in the rhetoric of the moment. The nuclear science community's contribution to public policy might be to damp the swinging pendulum. The effort to counter the overstatement of risks ought not itself to overstate just because the "other side" exaggerates, nor ought the environmental effects of the nuclear industry to be underestimated or played down. The pre-Three Mile Island and pre-Chernobyl days, so comfortable for the nuclear industry, are over, never to return. Nuclear power isn't going to save the world, but can reasonably take its place among other energy conversion technologies. Moreover, nuclear power and nuclear weapons manufacture do alter and damage the environment; they would be violating the Second Law of Thermodynamics if they didn't.

It is most important to always be a "truth squad." The notion that perception is reality and can somehow substitute for observation and deductive reasoning has penetrated even the refereed literature (Jasanoff 1993, Weiner 1993). The burgeoning literature on risk perception and risk communication (e.g., Slovic 1987) has only blurred the distinction between perceived and objectively measured reality. Misstatements and distortions should be identified and rebutted whenever and whenever one hears or observes them. I would suggest joining the Sierra Club or National Audubon Society and questioning their positions on nuclear issues. These two organizations are very open, and do have participatory members, as Greenpeace, Friends of the Earth, NRDC, and many others do not. As a onetime leader in both Sierra Club and National Audubon Society, I have observed at first hand the internal policy debates between volunteer leaders and paid staff. As the voices of the established environmental movement, both organizations need continuing input from volunteers. The truth may be complex and equivocal, but one eventually gains credibility by adhering to it (even though it doesn't seem like it).

The environmental organizations and anti-nuclear activists worked very hard to establish political power -- it didn't just happen. Local chapters of ANS and other professional organizations can counter their influence by participating vocally and actively in national and local affairs, writing letter to newspapers and elected representatives, issuing press releases, promoting initiatives, and so on. Like the Washington-based environmental organizations, most professional societies (including ANS) have Congressional liaison offices in Washington. However, the environmental organizations have conducted well-organized legislative liaison workshops for about two decades, and have extended their liaison efforts to state and local levels. ANS and other professional societies are well advised to do the same.

The nuclear industry is no longer synonymous with "the establishment" but is the outsider to some circles of government. Environmental activists are neither "hippies" nor social outcasts, but are themselves perilously close to representing current "establishment" values, though they have
yet to recognize establishment responsibilities. Though it is rarely acknowledged, one of the responsibilities of those who make public pronouncements, whether they be “establishment” or “anti-establishment,” is the responsibility to avoid distortion.

The challenge is to bring reason and objectivity to the nuclear debate, and to maintain it, and that challenge is both progressive and conservative. As Freeman Dyson wrote recently (Dyson 1995):

“Science is a mosaic of partial and conflicting visions... The common element [among these visions] is rebellion against the restrictions posed by the locally prevailing culture.... Science is an alliance of free spirits in all cultures rebelling against the local tyranny that each culture imposes...”

We are confronted with a “tyranny” of perception over reality. The practice of science and its continued expression both orally and in publication is the rebellion of free spirits that Dyson invokes.

References:

Jasanoff, S. *Risk Analysis* v. 13 pp. 35-38, 1993