CAN RISK COMMUNICATION PROVIDE ASSISTANCE IN NUCLEAR ENERGY DISPUTES ?

Ellen Meadd
Doctoral Candidate
Faculty of Environmental Studies, York University
4700 Keele Street, Toronto, Ontario, Canada, M3J 1P3
Meadd@yorku.ca

ABSTRACT

The continued use of nuclear technology in Canada appears to be limited by a lack of public acceptance of fuel waste disposal strategies. The outcome of the recent environmental assessment process conducted on the deep geological disposal concept bears-out this point. A brief review of transcripts from the public hearing portion of this process indicates that public sentiment on the issue includes anti-nuclear attitudes and concern over equity, safety, and trust [1]. This paper discusses Canadian sentiment on the issue and suggests that it is in line with public views on similar issues in other nations.

The field of risk communication has played a significant role in understanding the root causes of public opposition. This paper suggests that the field is well-placed to play an expanded role in resolving the issues underlying public concerns, (e.g., lack of trust, public disenfranchisement with the decision making process); however, this is a supportive role. It is suggested that broad-based involvement, commitment, and collaboration among all stakeholders in this dispute are necessary if improvement is to be achieved.

INTRODUCTION

The current dilemma in Canada regarding the management of high level nuclear fuel waste strongly suggests a need for the development of new and creative strategies to address public concerns. These social issues are pronounced and significant; unless they are resolved they threaten to prevent the many advancements being made in nuclear technology from being implemented and thus benefiting Canadian society. Transcripts of the public hearing process held in 1996 on the Nuclear Fuel Waste Management and Disposal Concept provide a record of the concerns raised by Canadians toward the management of nuclear waste, and all things related to nuclear energy [2]. Although specific to a uniquely Canadian process, the types of concerns raised are all too familiar, having been echoed in other nations in response to a wide variety of energy and waste-related issues. This paper outlines some of the more central points of public opposition

and explores some of the contributions that the field of risk communication can provide in the current dispute around nuclear energy, and more generally high technology, use in Canada.

PUBLIC VIEWS ON NUCLEAR WASTE MANAGEMENT

Canadian attitudes toward nuclear waste are given by a cursory examination of public hearing transcripts [3]; these include the significance and perceived danger of the disposal issue, the prominence of concerns around equity, the process, and safety, as well as a general level of anti-nuclear sentiment. Concerns voiced in the hearings appear to be underlain by a lack of trust in the proponent (Atomic Energy Canada Limited) and in the Canadian Federal government to protect the public interest by ensuring the safe management of both the waste handling program and the proposed repository facility. The concerns raised in these hearings and the reasons for them are certainly not unique to Canadian discussions on nuclear energy and fuel wastes, but are well documented by other nations grappling with risk issues related to energy and high technology.

Equity issues voiced in the Canadian public hearings centred on the decision making process and the distribution of costs and benefits. On the former point, the perceived lack of openness, fairness, and inclusivity (i.e., the intent to include all members of the public in decision making) were indicated by concerns raised about why a shared decision making process had not been used [4], why some groups were provided with financial assistance to attend meetings while the financial requests of others were refused [5]. The sentiment that public participation was just a formality and would have little impact on decision making [6] seemed to indicate the belief that public opinion was not valued in this process. Related to inclusivity were comments that questioned our society's right to make decisions that could potentially impact future generations [7]; this issue was not adequately addressed. Further perception of public exclusion from the process was given by comments about accessibility of the information provided to the public (e.g., materials were provided in technical English which was difficult to interpret for many predominately native language speaking elders) [8], and by comments made to the public (speakers were not identified) during the hearings that were interpreted as patronizing (e.g., the assumption that public concern over the proposal resulted from a lack of familiarity with the process and were not legitimate [9]). Underlying many of these concerns there appear to be questions of who should decide on environmental issues that impact all of society, who is included and excluded from the decision making process, and how power is distributed among stakeholders. Further, the validity of the process is being challenged [10]. There also appears to be a sentiment of disenfranchisement.

Concerns over the distribution of costs and benefits and related issues of racism, justice and ethics were shown in repeated comments to the Panel about how potential host communities were being identified, and how they should be selected. A few speakers indicated the opinion that communities that have not enjoyed the benefits of nuclear energy should not be expected to host a waste repository [11]. One speaker indicated a view that many communities only consider hosting a site to offset extreme

levels of poverty, implying concerns around ethics and fair-play in site selection practices [12]. Further on this issue, the question of who will take responsibility if environmental damage is incurred as a result of fuel waste management decisions was raised [13].

The safety concerns raised by members of the Canadian public centred on the technology, management strategy and the competence and responsibility of managers to conduct their duties effectively, with the public interest in mind. The safety of the technology was a concern, e.g., the limits of science to design and build vaults with necessary integrity. This concern was mentioned in relation to both short-term and long-term environmental damage, e.g., will pollutants effect the local community, economy, and subsistence patterns [14]? Some speakers seemed to favour a zero-risk or anti-nuclear strategy, e.g., nuclear energy should not be produced until and unless waste management strategies are completely safe [15]. Management-related concerns included the soundness of fuel waste transportation plans, long term repository site security, monitoring and maintenance.

Trust in the proponent, government decision makers, facility management, and the process were linked closely with the equity and safety issues described. Is the proponent trustworthy in the information it has presented to the Panel and the Canadian public, i.e., is information complete and accurate [16]? Are the proponent and government bodies handling negotiations with potential host communities openly and equitably [17]. Once the facility is built, will public needs be protected, e.g., will Radioactive Waste Policy regulations be enforced and will facility and related management be handled competently and responsibly according to agreement [18]?

This small sample of Canadian attitudes toward nuclear energy and related issues, as evidenced in the Public Hearing transcripts, is strikingly similar to other nations, as documented in environmental risk communication and risk management literature. For instance, public opposition stemming from concern for equity, safety, and trust issues has been noted in relation to facility siting discussions throughout North America, Europe and Taiwan [19]. These concerns were once attributed to public ignorance of the process, science, technology and risk assessment methods, but are now understood by academics to be the result of multiple and complex factors, including values, and social/political context [20]. That is, conflicting opinion on how environmental risks should be managed are the result of differences in what individuals consider to be risky, and these differences are rooted in conflicting values and interests that relate to our social context, e.g., culture, religion, whether the risk is a threat to our community. Political context issues are related to the democratic process, eg., who decides, who has control and power, whether there are feelings of disenfranchisement resulting from this or not, issues of public participation, and equitable distribution of risks [21]. Public difficulty with political context results fosters distrust in the system, decision makers, their advisors, and related corporate interests.

RISK COMMUNICATION: WHAT CAN IT OFFER?

Risk communicators work in the gap between academe, policymaking, technology, private

interests, and community, and assume a role which includes supporting and facilitating dialogue among the stakeholders of environmental risk conflicts and well-informed choices on risk in our democratic system [22]. The field is relatively young (~20 years), rapidly evolving, and practitioner-based. Practitioners are typically in regular, direct contact with the public throughout processes in which environmental threats from high technology (e.g., nuclear energy and waste) are discussed. Practitioners are, thus, in a unique position to develop a first-hand understanding of the details of public opposition, e.g., which issues relate to the technology and which to the process. In the role of facilitator, the risk communicator's purpose is to expose the various conflicting views held by participants, and to encourage active and open discussion so that underlying causes, concerns and assumptions may be known and understood. Further, the role requires a practitioner with the skill to develop an inclusive, mutual respecting and open environment for two-way communication, and awareness to bring issues related to social/political context and flaws in the process out for discussion. An underlying assumption of the field is that there are forces at work that favour consensus-building, meaningful stakeholder interaction, and acceptance of reasonable government regulatory frameworks [23]. The field also identifies itself in another main role, supporting an informed dialogue among participants by providing appropriate, high quality risk messages. With regard to these messages, the emphasis is placed on ensuring quality, comprehensiveness, timeliness, accuracy and honesty. Both of these roles require that attention be paid to levels of public trust in decision makers and other participants.

Despite its relatively short history, risk communication has made a great contribution to the gains that have been achieved in knowledge and understanding of public opposition, e.g., the dimensions of risk and the diagnoses of root causes of risk conflicts and concerns described in the last section. Risk communication has been, and continues to be, an integral component of a larger system of research, theory, and practice concerned with risk. It is this system as a whole, rather than its individual component parts, that has generated knowledge. Risk communication has provided a much-needed kind of laboratory for the system in which real risk conflict takes place. Conflicts are experienced by the participants and the RC practitioner as part of public consultations and other fora. The new knowledge gained from dealing directly with real conflicts feeds research, as well as theory and strategy development in other components of the system and also provides risk communication practitioners with the means to develop improved techniques. New theories and strategies are, then, often applied by practitioners, further tested, and refined. Before the existence of risk communication as a field of study and practice, risk recommendations were often derived without contact with the public. Similarly, theories attempting to make sense of public reactions, or rejections, to risk were based on assumption, controlled, contrived experiments and the personal experiences (i.e., from participating in risk conflict) of decision-making officials and others. Now, theories reflect current knowledge that is based, in large part, on a more highly developed understanding of public views of risk, gained from real conflict situations.

The field of risk communication, as an integral part of the larger system described, seems well placed to provide assistance in the Canadian discussions around nuclear energy and other types of high technology. The problem underlying public opposition, as it is now understood, is predominantly political rather than communication-based, and trust, or lack

thereof, is a key concern. Loss of trust has been linked with feelings of disenfranchisement with the political decision making system, poor organizational performance on the part of technology and proposal proponents and government bodies, and open contempt and disrespect for public 'ways of knowing' with regard to the management of risks. Although risk communication can play an important role, it is a supportive one. The field can participate by continuing to deepen current understandings of the problem via direct interaction with the public, testing proposed solutions, conducting post-hoc case study examinations of communication and process failures, and working on the democratization of risk information. Further, risk communication can concentrate on developing solutions for specific issues. Some possibilities include targeted efforts to improve understanding of trust and public risk education needs. The current literature for both of these issues is focussed on the American context. Work is needed to compare and contrast US data with the Canadian situation. For example, is the crisis in social trust in Canada similar to that documented in the US? Further, does the issue of the public's lack of ability to critically evaluate scientific, political, and social data related to risk, as documented in the US, apply to Canada? Another issue that could be tackled by risk communicators is the development of risk communication strategies to facilitate cooperation and collaboration among expert groups that view risk differently, e.g., actuary vs. sociologist, physicist vs. biologist, etc. This work could prove very useful given that the current environment of conflicting expert risk messages has been linked to a further deterioration of public trust.

The constraints of the risk communicator's role must be recognized, however. Many of the most central issues identified are related to the limitations of the current decision making process. The role of risk communication is limited in these matters; it can play a supportive role, but the broader effort must be collaborative if the trust problem is to be addressed and the decision making process augmented. This broader effort needs to include commitment, and active involvement from participants with widely divergent views; for scientists and technologists, this might require moving outside of standard roles and taking-on the task of re-establishing direct connections with the public through involvement in risk communication and public education efforts. With regard to the decision making process, a variety of questions need to be addressed. For instance, can true dialogue be achieved in the current process which has been criticized for being paternalistic in that decision making and regulation on risk issues are entrusted to experts? How can the decision-making process be made more collaborative, inclusive, and participatory? How can power be shared more equitably? A commitment to active, collaborative research and participation is also needed from proponents of technology and risk management, government bodies, other organizations and the public. On the issue of research, it has to be acknowledged that researchers have just begun to understand the dimensions of many issues related to risk conflict, and that there is not likely to be a quick solution found to resolve current disputes. Research and practice will first need to answer a variety of very difficult questions. For example, can trust be rebuilt, and, if so, in what time frame? Further, can equity issues be resolved? A lot of work is necessary before it will be known the extent to which the problem of conflicting risk messages can be solved, whether informative risk messages can be developed collaboratively, and whether these messages can be made politically neutral enough?

CONCLUSION

Although public opposition to nuclear-derived energy is a fairly new issue for research, and there is much that is still unknown, great strides have been made in knowledge development, and the field of risk communication has played an integral part. The unique advantage that risk communicators have had is direct contact with public participants in discussions involving risks from technology. Specific contributions to date have been a clearer understanding of public concerns (e.g., equity, safety), their underlying root causes (e.g., fear, lack of trust, power and control issues with the decision making process), and public perceptions of flaws in the democratic process. A second, and equally central, contribution has been the development of clearer, more effective risk messages and strategies for the communication of risk to the lay audience. These contributions have helped to advance our understanding of the social and political dynamics of public trust and risk perception. They have also helped produce the current understanding that public opposition is fundamentally political. That is, although opposition can be exacerbated by poor communication or disagreement over what is considered risky, it is rooted in political conflict.

Resolving Canadian public opposition to nuclear derived energy will require a new standard of participation, collaboration and cooperation among all stakeholders. Risk communication provides a useful framework for understanding the complexity of public opposition issues, exposing root causes, and testing new strategies for resolution. The field could play an expanded role, e.g., in facilitating collaborative (inter-disciplinary) communication, conducting research to answer several key questions, public education. For significant progress to be made on resolving political issues, however, trust and process issues need to be addressed, and for this, others will need to move outside of their standard roles. Particularly with regard to scientists and technologists, this move might manifest itself in individuals becoming personally involved in risk communication with the public, participating in an active dialogue with the public on the political and social ramifications of the technology they are involved in producing, and participating in dialogue on issues related to the perceived shortcomings of the democratic process.

REFERENCES

1. Environmental Assessment Review Agency. “Phase 2, Technical Session: Safety and Scientific Acceptability of AECL Concept for Deep Geological Disposal of Wastes.” Nuclear Fuel Waste Management and Disposal Concept Public Hearing Transcripts. Canadian Environmental Assessment Agency, Ottawa, November 21, 1996.
2. Ibid.
3. Ibid.
4. Ibid., comments from Mr. Morin, Metis Nation of Saskatchewan, and Mr. Penna, Interchurch Uranium Committee.
5. Ibid., comments from Mr. Morin, Metis Nation of Saskatchewan.

6. Ibid.
7. Ibid., comments from Mr. Penna, Interchurch Uranium Committee, and Mr. Rubin, Energy Probe.
8. Ibid., comments from Mr. Rubin, Energy Probe, and Mr. Morin, Metis Nation of Saskatchewan.
9. Ibid., comments from Mr. Plummer, Concerned Citizens of Manitoba.
10. Ibid., comments from Mr. Morin, Metis Nation of Saskatchewan, and Ms. White, Committee on Monetary and Economic Reform.
11. Ibid., comments from Mr. Plummer, Concerned Citizens of Manitoba, Mr. Morin, Metis Nation of Saskatchewan, and Mr. Orchard, Citizens Concerned about Free Trade.
12. Ibid., comments from Mr. Morin, Metis Nation of Saskatchewan.
13. Ibid.
14. Ibid.
15. Ibid., comments from Mr. Plummer, Concerned Citizens of Manitoba, Mr. Orchard, Citizens Concerned about Free Trade, Ms. White, Committee on Monetary and Economic Reform, and Mr. Lawson, Port Hope.
16. Ibid., comments from Mr. Lloyd, Northwatch, and Mr. Morin, Metis Nation of Saskatchewan.
17. Ibid., comments from Mr. Morin, Metis Nation of Saskatchewan, Ms. White, Committee on Monetary and Economic Reform, and Mr. Orchard, Citizens Concerned about Free Trade.
18. Ibid., comments from Mr. Simpson, Saskatchewan Environmental Society, and Ms. Fortugno, Interchurch Uranium Committee of Saskatoon.
19. See literature on environmental risk management, risk communication and social trust.
20. Otway, Harry and Brian Wynne. “Risk Communication: Paradigm and Paradox.” Risk Analysis, 9. No. 2, 141-5, 1989; Krimsky, Sheldon and Dominic Golding (eds.). Social Theories of Risk. Praeger, Westport, CT, 1992.
21. Leiss, William and Christina Chociolko. Risk and Responsibility. McGill-Queens University Press, Montreal, PQ, 1994.
22. Stern, Paul. “Learning Through Conflict: A Realistic Strategy for Risk Communication.” Policy Sciences, 24, 99-119, 1991.
23. Powell, Douglas and William Leiss. Mad Cows and Mother’s Milk: The Perils of Poor Risk Communication. McGill-Queen’s University Press, Montreal, PQ, 1998.