

## **Public Resistance is Waste-Based and What to Do About That – 13412**

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### **ABSTRACT**

“Nuclear Communicators” connect a highly advanced sci-tech world with the world of everyday living. One challenge is helping stakeholders fit together three Big Ideas: (1) the valuable nuclear energy resource, (2) nuclear energy’s invisible mortal dangers and potential bad-guy threats, and (3) critical scientific and engineering knowledge that is far over the heads of average (grade 8) USA reading levels. This article provides an overview of what does – and doesn’t – work in our public communications.

What doesn’t work:

1. Going off topic. Address what concerns people most: how to manage nuclear wastes.
2. Underestimating public intelligence.

What works:

1. Doing your homework on community history regarding nuclear materials.
2. Having discussion forums and public meetings with special guests from industry, government, and local leaders.
3. Regular cycles of communication with community groups to build a long-term dialogue.

Solutions to some communication challenges require handling four gaps and one jungle:

1. Facts gap – Honest information about waste disposition.
2. Time gap – The timelines associated with waste management include 300 years, 10,000 years, and 703.8 million years. How do we talk about this?
3. Money gap – Who pays for new waste management challenges and technologies?
4. Confidence gap – Link local options to regional, national, and global knowledge.
5. Decision jungle – How can we make waste management rules and infrastructure more logical and transparent?

Public communication needs to be grounded in facts for people who want to be credible actors in the new nuclear world.

### **NUCLEAR COMMUNICATORS**

George Dials, President of B&W Conversion Services LLC, introduced those of us attending the WM Symposia 2012, to “the elephant in the room: where are we going to put all this stuff?” The question is delaying progress for a nuclear future, and cannot be ignored in any public communications regarding nuclear decisions, plans, or proposals. Mr. Dials’ question is a reminder to talk honestly and openly about the elephant, as failure to do so can undermine public trust and support.

People who talk with members of the general public about today’s nuclear energy and waste management challenges, are not just doing public relations work. These “Nuclear Communicators” are connecting the highly advanced Sci-Tech world of nuclear energy with our

more ordinary world of everyday living. Members of the everyday world, usually called “Community Stakeholders”, are naturally invested in our own home economies and ways of life, banding together to develop ideas for improvements or protect against threats. To be effective in linking the two worlds of nuclear Sci-Tech people and Community Stakeholders will require an understanding of nuclear resistance and how to *use* it instead of trying to overcome it.

### **Two Things Almost Everybody Knows**

No matter whether people are nuclear experts or non-scientific Community Stakeholders, people know that energy is an increasingly vital part of their daily lives. They also know that, while all energy sources have costs and problems, nuclear energy has a distinctive set of risks and dangers.

First, everybody wants what energy makes available: city lights, computers, media, games and social events, police and hospitals, commerce and industry, and so on. There may be disagreements about where that energy should come from – oil, coal, nuclear, solar, wind – but very few people are willing to give up electrical power altogether.

Second, everybody recognizes that there are risks associated with nuclear energy. Some of the concerns about nuclear energy originated with accidents such as Three Mile Island and Chernobyl, and have become part of public lore. Others are more regional, related to problems of health or safety observed near Cold War legacy sites. Some fears are due to the “invisible” nature of nuclear contamination, or to potential bad-guy threats of weaponization, and may even be highly dramatic and impassioned, impervious to education or change.

In any case, “everybody knows” that we need energy sources and that nuclear energy comes with risks.

### **One Thing Almost Nobody Understands**

Even if the average American reading level is higher than grade eight, the likelihood is that most people do not understand nuclear safety well enough to have the confidence of a nuclear industry professional. The facts and concepts that might explain the many and varied safety technologies at every point in the nuclear fuel cycle are likely to require more scientific, engineering, and/or technological understanding than the average American high school graduate possesses. Further, the lack of understanding about nuclear professionalism and safety almost certainly contributes to the low level of trust in some stakeholder communities.

### **So: Nuclear Energy is Valuable, Dangerous, and Hard to Understand**

That suggests the Nuclear Communicator (a) does not need to discuss the already well known value of energy, (b) can – or even should – avoid discussion of the already recognized and a little bit scary nuclear risks and dangers, and (c) should focus on educating about why they should have confidence in the health and safety of nuclear energy technologies. Right?

Wrong.

## NUCLEAR RESISTANCE

The relationship between Nuclear Communicators and Community Stakeholders has sometimes been characterized as “Expertise vs. NIMBY”. Opposition to nuclear power has slowed or prevented the implementation of power plants, safe repositories, even transportation of nuclear materials. Anyone in the position of facilitating a public meeting expects to be prepared to face “resistance”.

Prevailing views of resistance in an organizational change management setting tell a one-sided story that favors the change agents. In this story, resistance is an irrational and dysfunctional reaction to a proposal for what is an obvious change for the better. Translated into the world of the Nuclear Communicator, the Community Stakeholder’s resistance can be seen as rejecting the facts offered by science and technology for a brighter and safer future. In other words, resistance is a response that needs to be prevented or overcome.

### The Background Conversations of Change

An alternative view of resistance brings an alternative set of approaches and communication techniques. In this view, resistance is not a response to the information being presented or the dialogues that are occurring in any specific public meeting. It is, rather, a product of any one of three background conversations of change that are already present before the meeting begins [5].

A background conversation is an implicit, unspoken “backdrop” against which explicit, present-time conversations occur; it is both a context and a reality for the discussion or presentation. Background conversations provide the context within which people understand information, take action, and interact with one another. This “background reality” is what gives any expression of resistance one of three distinctive attitudes:

1. *Complacency*: Everything is fine the way it is, so why change anything? If it’s not broken, don’t fix it; Why mess with success; and Don’t rock the boat. This is rarely the background reality for a public meeting about nuclear power: Community Stakeholders in such meetings are seldom comfortable and satisfied with the status quo on the matters being presented for discussion.
2. *Resignation*: Where complacent backgrounds are constructed from historical success, resigned backgrounds are constructed from historical failure. But unlike normal encounters with failure, in which people blame factors outside themselves, in a resigned background they blame themselves: We can’t be successful, so why bother? We don’t have any real say in this, so we give up. It’s not a battle worth fighting. Community Stakeholders in public meetings on nuclear power are unlikely to be operating from resignation and defeat; a much feistier atmosphere usually reigns.
3. *Cynicism*: The cynical background is also constructed from historical failure, but it bypasses self-blame and fixes the cause of failure on other people and groups and on a perceived fixed external reality – the way things really are. You don’t fool me: this is just more of the same old story. “They” never tell the whole truth – they just care about their own interests and will betray us again.

This third background conversation may sound familiar to people who have facilitated public meetings on nuclear energy matters. With cynicism in the background, the Nuclear Communicator may be faced with conversations that include accusations of ignorance or deceit

[14], or dishonesty and questionable motives [12]. Cynical resistance can also include overt hostility and aggressive attacks on the credibility and integrity of people who are proposing or affiliated with the proposal [19]; reflect a distrust and disbelief in others [1, 12]; or be laced with anger, resentment, scorn, derision, or contempt [11, 13, 14, 19].

### **Study the Resistance**

Students of resistance to nuclear energy have determined that nuclear accidents and disposal of long-lived radioactive waste have had the greatest public impact worldwide [17, 20]. Other factors, such as proliferation, costs, and terrorism have also been the source of concern, and nuclear resistance has also been blamed on the fear of new technologies and ignorance of basic scientific or technological information. But the greatest fears are associated with releases of radioactivity from power plant meltdowns and the danger of long-life radioactive waste materials.

The following summary, released to the press, lists the seven “Points of Agreement Among Activists at the 2<sup>nd</sup> National Radioactive Waste Meeting in Omaha Nebraska, June 1988”:

1. Redefine LLRW to exclude any material hazardous longer than the 100-year institutional control period required by NRC for “low-level” dumps.
2. Require retrievability of waste.
3. “Disposal” is not an option.
4. “Decommissioning” should be included in plans for dealing with “low-level” radioactive waste, with costs made known.
5. Public hearings should be held on all (potential) nuclear waste transportation routes.
6. Support the right for local control/vote to increase the democratic process in waste dump siting.
7. We support the transportation of nuclear waste if and only if the communities to which it is going, the communities through which it travels, and all affected communities are in approval and agreement (some discussion and dissention).

While the language has changed in the 25 years since this event, e.g., the word “dump” is less often used today, this list reveals two important things about communicating with the public.

First, we cannot assume that Community Stakeholders are ignorant or ill-informed. There is certainly a great deal of ignorance and misinformation in the public dialogue, but we can no longer assert that “nuclear resistance” is caused solely by a lack of knowledge. However much we might disagree with any of the propositions made in this 1988 meeting, they are not thoughtless.

Second, a close reading of just this simple list reveals the background conversation of cynicism: we can hear the mistrust of nuclear policies, practices, and officials in almost every item. For example: putting the words “disposal” and “low-level” in quotes suggests they are not seen as truthful terms; insisting that costs be “made known” implies that they have been (deviously) hidden from public view; using the term “dump” is an accusation of industry laziness or disrespect for the community. Each item contains an unsaid assertion of inauthenticity or incompetence on the part of nuclear Sci-Tech authorities and industries.

## Changing the Background Changes the Resistance

The power in dialogue is the ability to bring background assumptions, conclusions, and decisions into the foreground where they can be examined. Until this is done, the conversations remain transparent and unrecognized, and neither examined nor understood [15, 16]. Altering these background conversations shifts the context in which the very content of thinking and feeling occur and beliefs and perceptions are organized [18]. When the background conversation shifts, the foundation on which people construct their understanding of the world shifts too, and they can feel, think, and behave in new ways. Changing the background changes the resistance.

One way to deal with the cynical background of nuclear resistance is by reframing [3], i.e., undoing what is and creating something new. Undoing the cynical background can be accomplished with closure conversations [4, 8] designed to complete the past. Four ingredients in a closure conversation address the different types of “incompletion” that may still be active in the background:

- Acknowledge the facts: Address the history and status, including what has worked and what has not worked. In the 1988 example, this would require being straight about what has actually happened and the resulting failures and successes that are relevant to each item mentioned:
  - i.* The definition of “LLRW” with respect to the term of its institutional control.
  - ii.* Radioactive waste retrievability vs. permanent disposition.
  - iii.* The definition(s) of “disposal”, including gray areas and disagreements.
  - iv.* The planning processes for “decommissioning”, and the costs of decommissioning and its associated low-level radioactive waste management.
  - v.* Public hearings on all potential nuclear waste transportation routes.
  - vi.* Local, regional, state, and federal control and voting on radioactive waste sites.
  - vii.* Participation in decisions on transportation of nuclear waste by the communities through which it travels.
- Appreciate the people: Recognize the accomplishments and contributions of participants in the 1988 discussions and people responsible for relevant developments since that time.
- Apologize for mistakes & misunderstandings – even if it’s not “your fault”. Admitting to past instances of incomplete information, biased communications, or misrepresentations of any kind will go a long way to clearing up past grudges.
- Amend broken agreements: Recognize any agreement that has been made – or has been presumed by the Community Stakeholders to have been made, and (a) Report on its current status; (b) Identify any failures to fulfill the agreement and any resulting consequences for participants; and (c) Make a new agreement with clearly stated terms and conditions.

Bridges [2] proposes that where prior changes have not been closed or completed, people are left dissatisfied. The problem this creates is that all subsequent attempts to introduce change will occur within this “conversational space” of incompleteness and dissatisfaction, with the incomplete past playing a leading role in defining the future. Resistance, whether complacent, resigned, or cynical, is a reaction to an incomplete past; in fact, it is the past made present.

The effect of introducing a robust closure conversation is to alter completely the “agent-recipient” relationship, in which the change agent (the Nuclear Communicator) interacts with the change recipient (the Community Stakeholder). Acknowledging the facts of the past, appreciating the contributions of all relevant players, and genuinely apologizing for any perceived past mistakes or misunderstandings will set the groundwork for new agreements and a restoration of lost trust.

## **HOW TO BE AN EFFECTIVE NUCLEAR COMMUNICATOR: FOUR SUGGESTIONS**

### **Learn About Stakeholder Resistance**

Blaming resistance is easy to do [9]. Standing in front of a room in which people are delivering accusations of incompetence, laziness, or misrepresentation makes it difficult to maintain composure or communicate effectively. The natural response is to become either defensive or competitive, which only further aggravates those people we want as our partners in creating a new future. Resistance is simply a form of feedback [7], and it is coming from people with deep knowledge about matters of importance to your own intended outcomes. When we treat people’s concerns as valuable information, we gain useful leverage for communicating, and ultimately executing, any plans for action.

### **Plan the Closure Conversation**

Do your homework on the communities you will be talking with: know their past and present events and experiences regarding nuclear wastes, and if possible, learn about their perceptions and hot-button issues. Recognizing the community’s history with nuclear materials, including past problems, their current situation, and Stakeholder objections and objectives will help you design a closure conversation that recognizes each incomplete item. Listen to their “resistance”. Get specific about what is still an issue for them and develop open and honest responses to each “background” source of resentment or mistrust.

Bring respect to this conversation: do not underestimate the public. Their mistrust breeds a keen listening on their part, along with a willingness to fact-check, so don’t brush over hard truths, and don’t lie. Telling stakeholders “we recycle nuclear waste”, for example, is barely true. There is not even a standard definition of “recycle” at this time. If they don’t know that before you speak, they will surely learn it later, at the cost of a further erosion of trust and goodwill.

### **Put the Elephants at the Heart of the Agenda**

Public resistance is a product of the pessimism, mistrust, and resulting fears about radioactive waste and contamination, so don’t bury those topics. Address what concerns people most: nuclear waste and how to manage it. Consult with Sci-Tech experts and professionals from the nuclear waste industry to formulate honest statements about why to manage nuclear wastes, the ways it can be done, and what it takes to do it right. Bring full information and honest disclosure to the five major sources of cynicism: four gaps and one jungle.

1. The basic facts gap: What kinds of radioactive waste are there, and what should we do with them? Which kinds can be reprocessed? Recycled? Treated? What is the difference between disposal and storage? People want an honest and simple explanation for waste disposition.

2. The time gap: Radioactive storage cell design and site geology support a 300-500 year timeline. Planned high-level nuclear waste facilities include a 10,000 year timeline to meet exposure standards for nearby humans. The half-life of Uranium 235 is 703,800,000 years. Discuss these hard-to-imagine time factors in a way that ordinary people (who have access to Google) can make sense of them.
3. The money gap: Ratepayers put \$715 million a year toward waste disposition, which will cover something less than 80% of repository construction and operation costs. New waste recycling technologies can be developed, but who pays for this? Educate your audience about costs and funding mechanisms.
4. The confidence gap: Are there international standards for waste disposition that nuclear scientists, engineers, and regulators agree on? Or does every country (and state) need to make up their own? Link local explanations to regional, national, and global knowledge about best practices and solutions for waste disposition.
5. The “Who Decides” jungle: Government, regulatory agencies, and Indian tribes all make “final decisions” about nuclear wastes. But the underlying fact is that politics and budgets rule the day. Educate people about how the world of nuclear waste management decision rules and infrastructure really works today, and how people in the community might participate in making this more logical and transparent.

Include other topics in your agenda – the value of energy is an important subject, as is information about the professionalism and competence of current health and safety practices. But deep-detail information on technologies may be inappropriate or tiresome for people who want a big picture view on those topics. You can talk about “clean energy”, “carbon-free energy solutions”, and “climate change” – as an introduction or finale – but those subjects will be seen as fast-talk or whitewash if the hot-button issues of the past and present are not completely addressed. Don’t ignore the Elephant in the Room: where *do* we put all the stuff? The deepest public concern is waste safety and security, so don’t cut corners on this important topic – it can undermine your own future with these Community Stakeholders,

### **Plan for Long Term Engagement**

Schedule regular cycles of communication and involvement with different community elements and interest groups. You want to build trust and confidence with a long-term dialogue and productive exchange. Methods that have succeeded in accomplishing this include the following:

- Work with community leaders to determine whether, how, and when, to hold small discussion forums, open public meetings, and/or conferences that include special guests from industry, regulatory agencies, and local government and business leaders.
- Identify leaders to help involve the public at large in the areas of education, health and safety, and economic development, and work with them to develop programs that support the community’s engagement in their nuclear future.
- Make opportunities widely available for expanded public participation by discussing “Next Actions and Objectives”. This entails working with Community Stakeholders to develop small steps, things people can do, next times to talk, next topics to discuss.
- Assist people in establishing meaningful performance targets and timelines for progress and success. Taking a tip from the United Way, a simple thermometer can show each community its progress toward shared objectives. Working with Stakeholders, create a

small set of community-relevant measures to help people watch for successes and move forward one step at a time.

- Consult appropriate local and regional organizations to learn about possible community benefit packages that include hiring and training community members to work with the nuclear solutions being proposed. This is a powerful way to engage people in being part of the bridge between the nuclear Sci-Tech world and their home community.

Public communications need to be clear, honest, and accessible, and grounded in facts and openness. Many people want to move beyond the limitations of their community's past, and many have an interest in being fully present to learn about what is happening now. The way to help them do that is by acknowledging the source of their resistance and by being generous in working with them to complete old issues and misunderstandings. People do want to participate in a successful future for their energy and environment, and Nuclear Communicators can give them the knowledge they want and need to be non-cynical actors in the nuclear world.

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