

HOW TO TELL YOUR STORY TO THE PUBLIC

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If we are to convince the public that utilization of radioactive isotopes from the nuclear fuel cycle is beneficial, we must do a better job than we have done with nuclear power. For more than 20 years the commercial nuclear industry has operated under unprecedented public health scrutiny. Its safety record is outstanding compared to virtually any other industrial activity. Yet, the population feels that any radiation dose is an overdose. Fear has contributed to the slowdown and all but stopped the development of the commercial nuclear power industry in the United States and other countries.

This paper explains some of the important factors to consider when approaching the general public concerning industrial and commercial use of radioisotopes from the back end of the fuel cycle.

INTRODUCTION

Public Knowledge in the '70's

Ours has been a technological society par excellence. Americans have exuberantly sought, bought and used the products of science and technology. Even in the 1930's in the depths of the worst economic depression, the belief in progress--a better way of life--persisted. After World War II, faith in a better life continued and began to materialize in substance. By 1958 John Kenneth Galbraith's The Affluent Society demonstrated an "affluence" which had materialized in less than a decade.

Technology has not only given us a life style undreamed of a few years ago, but it has also reduced risks in society. A century ago life-expectancy was less than 50 years; today it is over 70 years. Therefore, the sum of all the risks of technological society to which we are now exposed must be less than it was...a fact that is lost to the younger generation.

Instead, young people are conscious of a myriad of smaller risks associated with new technologies such as nuclear power, but they are not aware of the larger benefits. Yet, young people born since 1945 have grown up in the Nuclear Age and should know all about the benefits of atomic radiation and nuclear reactors.

If a U.S. citizen writes a letter today, drives a car, or eats a sandwich the chances are that he/she will enjoy some of the invisible benefits of nuclear energy. How many people realize that the transparent plastic wrapping used to package fruits and similar foodstuffs depends upon radiation for its strength and clinging ability? Not many--perhaps one in 1,000. Less than 8 percent of the American public realize that radiation helps in the space program, saves countless lives in medical diagnosis and treatment, as well as produces healthier crops and livestock. But this revolution in everyday life during the past 30 years has, relatively speaking, gone unnoticed.

HISTORY'S LESSON

For more than 20 years, the commercial nuclear power industry has operated under unprecedented public health scrutiny. Its safety record is outstanding compared to virtually any other industrial activity. Yet, fear and uncertainty have certainly contributed to the nuclear slowdown in the United States and in various other countries. This same fear and uncertainty can prevent expanded use of byproduct material.

The wondrous benefits of radiation are easier to take for granted than to explain. But explain we must. Almost every important scientific advance since the invention of the wheel has been opposed--by people who should have known better--as profane, immoral, impractical or downright hazardous. Expanded use of byproduct material will be contingent upon adequate communication between the technical community and the general public. The bottom line is effective communication which requires some knowledge of your audience. We must recognize that the public is not a uniform body, but rather a collection of individuals, a substantial portion of whom are temperamentally inclined to regard any new technological change with suspicion.

This group overlaps with a broader section of the population which might otherwise be indifferent were it not that their hostility can be aroused by fear--fear of cancer, fear of change, fear of the unknown.

The Fear Syndrome

From the earliest times, anxiety has pervaded human existence. Beginning in infancy through old age, fear has been a constant companion. Famine, plague, floods, tornadoes, earthquakes--natural events create fear. Deities and ghosts--supernatural entities create fear. Fellow humans create fear.

In his article "Nuclear Safety and Public Acceptance," Dr. Alvin Weinberg notes that anthropologist Mary Douglas and political scientist Aaron Wildavsky agree that every culture chooses to focus on only a few of the infinite number of life threatening risks which it faces. The Lele, a primitive tribe in

Zaire, are subjected to all kinds of natural threats to life and yet they fear only three--lightning, barrenness and bronchitis. All three are attributed to specific types of immorality.²

Dr. Weinberg further points out that "in a similar vein, Douglas and Wildausky identify the current elevation of the environment to a preeminence even over war or poverty or social disorder as having fundamentally the same origin as the Lele people's curious preoccupation with a few rather obscure risks to the exclusion of other, more common ones."

I fully concur with Dr. Weinberg's conclusion that of all the environmental threats, nuclear power has become the Western world's counterpart of the Lele people's fear of bronchitis.

The Real Danger

Yi-Fu Tuan makes the thought-provoking point in his recent book Landscapes of Fear, that our fellow humans are more menacing than environmental forces, not only as direct inflictors of harm through violence or magic, but by their mere presence as competitors for limited food or spreaders of disease.³ Indeed measures people take to protect themselves from external danger such as crowding into cities and creating powerful institutions for social control increase these threats. In the future if adequate energy supplies are not available to keep the world's major cities and their institutions functioning, destructive civil unrest could occur.

In a sense there already is a revolution going on in the United States today. Bill Mandel of the San Francisco Chronicle points out that popular historical models of revolution serve up ancient images that do not connect to our lives. We imagine Frenchmen overturning wagons, torching palaces, walking to the guillotine or a Russian mob rushing the summer palace at Petrograd and raising the tattered red flag above its towers. But the same forces at work in 1789-France and 1917-Russia are at work in 1983-America and, to some degree, are directly related to our present energy problems.

In the California Bay Area we talk about the housing crunch or the housing crisis. As Bill Mandel points out, historians may see in our crunch an economic, social catastrophe of mammoth proportions. What we call senseless crime, historians may well call the revolution of a huge underclass. In the Bay Area we buy metal grillwork for our doors and windows, install burglar alarms and call it security. Historians may label these the barricades of the 20th century.⁴

In the area where I live we take self-defense classes, teach children how to scream for help, and complain of lawlessness and the ineffectiveness of the courts. San Francisco is a microcosm of the world at large. As the energy crunch intensifies and subsequent economic consequences appear, this scenario could be played on many stages.

Other Problems

Worldwide competition for existing energy supplies will not diminish, but rather intensify as new pressures are exerted. For example, recent studies have raised serious questions about the adequacy of most indoor lighting, particularly energy-saving lights that greatly distort the natural spectrum of the sun. These studies indicate that to affect hormone production, human beings require much brighter

light than other animals--three to four times brighter than the light normally in homes, offices, and factories. In some cases attempts to use the energy efficient but spectrally limited type lights has met with a slough of immediate health complaints including eye strain, headache, and nausea. Who would have predicted ten years ago that the greatest increase in radiation exposure to the American public could occur from the buildup of radioactive radon gas in energy efficient housing. We are just now beginning to realize conservation can be detrimental to our health!

It is surprising how many of our European cousins are aware of new evidence that indicates that many of the medical, psychological and social problems of the 20th century could be caused by petroleum-based chemicals used in things as ordinary as the telephone. Dr. Allen Levin, an allergist, immunologist and an adjunct professor of dermatology at the University of California, has performed work that indicates an increased use of petro-chemicals has created disease states which result in depression, lack of motivation, and increased irritability. These factors lead to reduced productivity, financial stress and also crime. In the future the industrialized nations of the world, under pressure from their own citizens to resolve such problems, will have no other option but to use the atom in all its forms including byproduct material to provide the energy and new materials that will be needed.⁵ This should be part of our message.

The Two Cultures

The British novelist, C.P. Snow, frequently lectured about the danger of two cultures he saw growing up in the Western world. One culture was scientific, technical and numerate. The other was nonscientific, artistic and non-numerate. Unfortunately we have not heeded his warning.⁶ Today, people in the large nonscientific culture know little about the technological innovations upon which our civilized world has come to depend. Each day people use electronics, semiconductors, engines, advanced metallurgy, advanced chemical preparations and all this without having any sense of appreciation of their scientific foundations. Unfortunately, we scientists do not seem to be aware of this shortcoming when we approach the general public.

Members of the scientific community have developed the habit of speaking in their own jargon not only to one another but to the public as well. Such jargon filled with numbers is incomprehensible to the general public and even the educated layperson. George Bernard Shaw spoke for the public when he said, "Every profession is a conspiracy against the laymen."⁷

We have numbers on our side, often powerful ones, but our efforts to dispel impressions with numbers alone have been, and will continue to be, unavailing. Our strict use of numbers ignores the overriding antecedent requirement--the need to be efficiently credible on moral themes so that people will be prepared to look at the evidence. But that's not the only problem. We still must contend with the information explosion.

Jeffery Greenhalgh, author of the Necessity for Nuclear Power aptly demonstrates that we live in a world awash with information.⁸ Everyone is subjected each day to far more than can possibly be absorbed. To preserve his sanity, man retreats to the

prejudices of his established opinions, only accepting that information which confirms them, the rest is rejected as manipulation or propaganda.

Dr. Robert Klaus, chairperson of Columbia University's psychology department says, "If the opinion you express differs by more than a certain margin from those to whom you are speaking, you will probably have no effect on them at all."⁹ People tend to expose their minds only to those ideas with which they agree. When a message contradicts the beliefs or loyalties of an audience, the speaker will have problems.

Our task then is to find common ground and then use established opinion to convince the public that utilization of radioisotopes from the nuclear fuel cycle is beneficial.

Selling Radioisotopes

Using a rough, conservative estimate I would say five million speeches are delivered annually in the United States. One million of these are people trying to sell a product. Only a few will be remembered more than 24 hours. Of those few, some make lasting impressions. 1939 was the year of "Gone with the Wind" which the world just about was. Yet, of all the words spoken in that cataclysmic year, the most widely remembered will always be "Frankly, My Dear, I don't give a damn." Can we come up with the equivalent. Of course, we can.

A colleague of mine recently related the following story. A minister was giving a children's sermon the Sunday before Thanksgiving using a large cornucopia overflowing with fruit. The minister asked the children to imagine the cornucopia empty so they could fill it with whatever they liked. The children responded with items like popcorn, pizza and mayonnaise. He asked them to respond with their favorite toys or games. Then he suggested putting in something which was invisible--something from God. One small child answered, "Natural gas!" I rest my case and congratulate my colleagues at the American Gas Association.

We can use established public opinion and prejudices to sell radioisotopes in the same fashion. People are concerned about food supplies, energy, jobs, disease, carcinogens in the environment to name a few. Utilization of radioisotopes can help in all these areas and we must convey this message to the public. If we use the jargon approach, the public will reject our product.

Rumors

Dr. Herbert Blumer, a professor of sociology at the University of California at Santa Barbara, specializes in rumors. He describes rumor construction as a cumulative process.¹⁰

For example, there is a long-running rumor that a man invented a way to turn water into oil but the oil companies suppressed the process. A variation of the theme made the rounds during the 1974 energy crisis, when it was widely believed that the oil companies were dumping huge amounts of petroleum in the desert to create the shortage. And of course, there is the one about the pet alligator that was dropped down a toilet by a little boy. Today alligators roam the sewers of (fill in the name of any city). The alligator story has traveled around the country with embellishments tagged on to suit a community. In New York where style counts, the alligators are said to be blind and albino.

Make no mistake the low level radiation issue falls into the same rumor category. We already have two strikes against us even before we try to convince the general public that radioisotopes can be used beneficially.

Spokesmanship

How many speakers do you remember? How many speeches would you consider "good"? In the March 1982 issue of "Speechwriters Newsletter" Carolyn Lomax Cook provides some very good advice. For a good speech, the speaker must center on one understanding --the speaker is the speech. The man is the message. The woman is her words.¹¹

What does Carolyn mean? Simply, the listener cannot separate the content of the message from the character of the speaker. The speaker and the message are so integrated that when the audience evaluates one, it automatically evaluates the other. The speaker and the speech are one and the same.

When listening to a speech, the listener asks three questions. Is this speaker reliable? Do I like the speaker? Can I trust the speaker's facts? As he or she delivers the speech, the speaker's own personality and character will answer these questions--not statistics, charts, or intricate explanations of technical data.

Effective speakers use power packed words. "I think" and "I guess" are apologetic. "It's my judgement" and "in my opinion" are definitely stronger. Intensifier words such as "like this," "very," and "really" are ineffective hedges like "kind of" "sort of" and "maybe".

An excellent reference for speakers who wish to successfully reach their audience is A Sense of Style by Jane Blankenship. She offers the following specific examples for identifying with your audience:

Impersonal: The giant trees in Northern California have been enjoyed by millions of people for many years. The chances are that people in the future won't be so lucky.

Personal and Specific: Are you one of the fortunate Americans who have seen the magnificent coastal redwoods in Northern California? Your son and daughter may be denied this awe--inspiring experience.

Maintain audience attention through metaphors that use movement, figurative language, and concrete examples as well as by involving your audience on a personnel level.

Capture your audience's attention by including yourself in citing errors or successes in judgement and action: "I was on target when..." or "I missed the mark when..." or "There are those among us."

As previously discussed, the greatest problem we scientists or technicians face is to "unjargon" technical jargon. Blankenship noted the following anecdote: Francis Perkins once suggested this sentence to President Roosevelt. "We are trying to construct a more inclusive society." Roosevelt changed it to read, "We are going to make a country in which no one is left out."¹²

A first-class short course in good communication is available every week--free. Starting at 7:00 a.m. every Sunday morning and continuing as long as you want to watch is the lineup of T.V. preachers--Jimmy Swaggert, Robert Shuler, Jerry Falwell, Oral Roberts and other pulpit luminaries. All of them have an hour program, yet speak no longer than 30 minutes. They use simple, clearly understood language, no references to the bottom line, no interfaces with God, nothing is finalized, nothing is prioritized. There is no reference to the Christian community, but many references to "you."

Through their choice of language, they involve the audience. They talk to the people sitting before them live or watching at home. Their language does not include words such as "Negative influences that impact the individual, inevitability effectuate alterations." Their language sounds like Bob Shuler's "Trouble never leaves you the way it finds you." They speak with absolute certainty, no doubt, no equivocation creeps in. They are telling their audience precisely how things are and how they ought to be. The key to their speech--the audience feels better about themselves and better about the speaker, when the preacher has finished.

The Media

Colleagues often ask me, "Why won't television, radio, newspapers and magazines tell it like it really is. Why won't they emphasize the positive and tell the whole story."

The answer is simple. That is not what the media think they are supposed to do. From their viewpoint, it is not their job to present a picture of life in its totality but rather to present a slice of life.

Theodore White once commented, "You don't make your reputation as a reporter, and I did not make my reputation as a reporter, by praising anybody. You make your reputation as a reporter by gouging a chunk of raw bleeding flesh from this system. And I did that. All young reporters do that. You gotta be able to prove you can snap your jaws for the kill."¹³

Charles Seib, editor for the Washington Post, states, "We of the media like conflict, tension, the suspense of contest. We like these things because they make good copy. Our banner might well carry the motto, 'Let's You and Him Fight'... We desperately need contest."¹³

Or as author, Anthony Burgess put it: "You can turn a treatise on municipal drainage into a best seller by calling it 'odor of sanctity' and attributing it to an unreformed prostitute."¹³

The anti-nuclear folks are well aware of how to use the media to exploit this characteristic against the nuclear industry. One such group is exploring the use of cable television in the U.S. for campaign spots and is aiming to appeal to blacks and minorities with its 'trust us' message. Questions asked of citizens include, "Do you know nuclear wastes are going to go past your front door?" "Do you trust the fire department to handle the cleanups?"

The message is clear. We must address the media with the most dramatic, as well as the most responsible statements we can fashion, and in terms which will interest the media. Terms that the average American will understand.

Conclusion

The June 1960 issue of Nucleonics magazine carried a guest editorial by Merrill Eisenbud; Manager, New York Operations Office of the U.S. Atomic Energy Commission, which stated, "Of the many difficult problems that we face in developing nuclear technology, none seems more baffling than those having to do with the public attitude on matters of radiation and health. A lack of perspective can be found everywhere, not only in the population as a whole, but among statesmen, scientists and writers. These attitudes may well prove to be the most serious single impediment to the development of civilian applications of Atomic Energy."¹⁴

Prophetic words indeed! Of course he was absolutely right. The acceptance or rejection of nuclear energy still depends on the public's ability to sort out and balance the benefits of nuclear energy against the risks. Its perception of these will be influenced, even more today than in the past, by how well we conduct our public understanding programs and how well we structure our messages for specific target groups.

The United States is growing older, ethnic and female. Longer lifespans are creating an ever-higher percentage of elderly. The United States is already one of the largest Spanish--speaking nations. Female college enrollment now exceeds male enrollment and a recent government report predicts an additional million women a year joining the work force throughout the 1980's. Each of these groups has their own prejudices and opinions. Our communication program must take this into account.

The task will not be easy. We need to face the short-term public relations problems pragmatically. For the longer term, we must remember that the other side is continually teaching the public that the tree of knowledge bears dangerous fruit. We must convince the same public that the tree of ignorance is even more deadly.

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