Nuclear Regulation

OECD

Building, Measuring and Improving Public Confidence in the Nuclear Regulator

Workshop Proceedings
Ottawa, Canada
18-20 May 2004

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NUCLEAR ENERGY AGENCY
ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

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The OECD is a unique forum where the governments of 30 democracies work together to address the economic, social and environmental challenges of globalisation. The OECD is also at the forefront of efforts to understand and to help governments respond to new developments and concerns, such as corporate governance, the information economy and the challenges of an ageing population. The Organisation provides a setting where governments can compare policy experiences, seek answers to common problems, identify good practice and work to co-ordinate domestic and international policies.

The OECD member countries are: Australia, Austria, Belgium, Canada, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Korea, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States. The Commission of the European Communities takes part in the work of the OECD.

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NUCLEAR ENERGY AGENCY

The OECD Nuclear Energy Agency (NEA) was established on 1st February 1958 under the name of the OEEC European Nuclear Energy Agency. It received its present designation on 20th April 1972, when Japan became its first non-European full member. NEA membership today consists of 28 OECD member countries: Australia, Austria, Belgium, Canada, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Luxembourg, Mexico, the Netherlands, Norway, Portugal, Republic of Korea, the Slovak Republic, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States. The Commission of the European Communities also takes part in the work of the Agency.

The mission of the NEA is:

- to assist its member countries in maintaining and further developing, through international co-operation, the scientific, technological and legal bases required for a safe, environmentally friendly and economical use of nuclear energy for peaceful purposes, as well as
- to provide authoritative assessments and to forge common understandings on key issues, as input to government decisions on nuclear energy policy and to broader OECD policy analyses in areas such as energy and sustainable development.

Specific areas of competence of the NEA include safety and regulation of nuclear activities, radioactive waste management, radiological protection, nuclear science, economic and technical analyses of the nuclear fuel cycle, nuclear law and liability, and public information. The NEA Data Bank provides nuclear data and computer program services for participating countries.

In these and related tasks, the NEA works in close collaboration with the International Atomic Energy Agency in Vienna, with which it has a Co-operation Agreement, as well as with other international organisations in the nuclear field.

FOREWORD

In its report on Future Nuclear Regulatory Challenges, published in 1998, the NEA Committee on Nuclear Regulatory Activities (CNRA) stressed the importance of the interface between regulatory authorities and the public, given that regulatory bodies are responsible for informing the public about their role in ensuring nuclear safety. Major challenges in this area were summarised as follows:

- responding to increasing pressures on regulatory body resources in some countries to accommodate public needs to participate in deliberations as well as in the decision-making process through hearings and consultations;
- meeting freedom of information requirements and the requirement in some countries to respond to all requests from the public and the media;
- responding to public demands for involvement in major decision making; and
- maintaining an appropriate balance between the need to inform the public and at the same time the need to encourage responsible media reporting of regulatory action.

The importance and means of interaction between regulatory bodies and the public vary widely from one country to another. It is expected that in many countries this interaction will become increasingly important in the future.

A first workshop on this interaction, entitled “Investing in Trust: Nuclear Regulators and the Public” was held in Paris in 2000, which provided a unique opportunity to examine national practices regarding regulatory bodies’ relations with the public. It showed that good governance and efficiency in decision making are increasingly dependant upon mutual trust and confidence between the authorities and the public. Based on the conclusions of this workshop, the CNRA decided to establish the Working Group on Public Communication of Nuclear Regulatory Organisations (WGPC) in order to maintain a forum for exchanging experience.

The WGPC soon identified a need to provide the staff of nuclear regulatory organisations responsible for public communication with a new opportunity to share information, practices and experiences, and to discuss developments, progress and techniques in the area of nuclear regulatory communication with the public. It was in this context that the workshop on "Building, Measuring and Improving Public Confidence in the Nuclear Regulator" was organised from 18 to 20 May 2004 in Ottawa, Canada under CNRA auspices and in collaboration with the Canadian Nuclear Safety Commission (CNSC). The workshop was chaired by Ms. Linda J. Keen, President and CEO of the CNSC. Over 90 experts (from Belgium, Canada, the Czech Republic, Finland, France, Germany, Hungary, Japan, Korea, Mexico, Norway, the Russian Federation, Spain, Sweden, Switzerland, the United Kingdom and the United States) attended the workshop. The IAEA was also represented, as were Canadian stakeholders including industry, local government and media representatives.

In addition to enabling participants to share practices and experience, the workshop contributed to the identification of important issues in the area of nuclear regulatory organisations' communication with the public. Major topics discussed included:

- What is public confidence? Why is it important? (Introductory session)
- How much does a regulator have to communicate, how and when? (Session 1)
- Practices in communicating technical issues to the general public (Session 2)
- How to integrate communicators and technical staff? (Panel)
- How do regulators measure public confidence? (Session 3)
- What are effective techniques for improving public confidence or restoring lost confidence in a regulator? (Session 4)
- How does the regulator effectively involve the public in its activities? (Session 5)

The conclusions and recommendations of the workshop have been submitted to and endorsed by the CNRA. They will be followed up by the CNRA Working Group on Public Communication of Nuclear Regulatory Organisations (WGPC).

Acknowledgements

We would like to express our thanks to the Organising Committee, the session chairmen and all those who contributed to the success of the workshop by presenting their work and taking active part in the discussion. Our gratitude goes to the Canadian Nuclear Safety Commission (CNSC) for hosting the meeting and for their kind hospitality. Special thanks are due to Ms. Marsha Scallen for taking care of the local arrangement, to Dr. Jacques Royen, former Deputy Head of the NEA Nuclear Safety Division who contributed in a great manner to the preparation of this Workshop. The NEA also wishes to express its gratitude to the Government of Japan for facilitating the production of this report.

TABLE OF CONTENTS

EXECUTIVE SUMMARY

1. Sponsorship

The Workshop on Building, Measuring and Improving Public Confidence in the Nuclear Regulator was organised from 18 to 20 May 2004 in Ottawa, Canada under the auspices of the Committee on Nuclear Regulatory Activities (CNRA) of the OECD Nuclear Energy Agency (NEA), in collaboration with the Canadian Nuclear Safety Commission (CNSC). The Workshop was chaired by Ms. Linda J. Keen (President and CEO of the CNSC).

2. Background of the Workshop

In its report on Future Nuclear Regulatory Challenges, published in 1998, The NEA Committee on Nuclear Regulatory Activities (CNRA) stressed the importance of the interface between regulatory authorities and the public.

A first workshop on the interaction between regulatory bodies and the public, entitled "Investing in trust: nuclear regulators and the publics" was held in Paris in 2000, which provided a unique opportunity to exchange on national practices regarding regulatory bodies' relations with the public. It has shown that good governance and efficiency in decision making is increasingly dependant upon mutual trust and confidence between authorities and the public. Based on the conclusions of this Workshop, the CNRA decided to set up the Working Group on Public Communication of Nuclear Regulatory Organisations (WGPC), in order to maintain the exchange of experience.

The WGPC identified the need for providing the staff of nuclear regulatory organisations responsible for public communication with a new opportunity to share information, practices and experiences, and to discuss developments, progress and techniques in the area of nuclear regulatory communication with the public.

3. Purpose of the Workshop

Particular emphasis was put on building, measuring and improving public confidence in the nuclear regulator. In addition to sharing practices and experience, the Workshop has contributed to the identification of important issues in the area of nuclear regulatory organisations' communication with the public.

Major topics discussed at the meeting included:

- the shared practices of planning and implementing public confidence building activities at nuclear regulatory organisations;

- the shared practices of measuring and evaluating public confidence in the nuclear regulator; and

- the shared experience of how the results of measuring public confidence impacted the regulator.

4. Workshop attendance

Over 90 experts attended the Workshop. They came from Belgium, Canada, the Czech Republic, Finland, France, Germany, Hungary, Japan, Korea, Mexico, Norway, Russian Federation, Spain, Sweden, Switzerland, the United Kingdom and the USA. The IAEA was also represented, as well as Canadian stake holders covering from the industry to local authorities and media representatives.

5. Summary of the main findings

A general observation from the presentations and discussions was that cultural differences between the countries are large, and similar means for communication are not effective in all countries. Some approaches presented in the workshop might not even be possible in other cultures.

It was also clear that in some countries the regulators can achieve public confidence more easily than in the others. An important factor is the general trust on the public government and its representatives.

However, a number of common principles were identified that can be recommended to all regulators. Among these are the following:

- Give high priority to building and maintaining the public confidence. Confidence among all stakeholders is a necessary prerequisite for successful nuclear regulation.

- Use any available means to make yourself well known: if you are not known, there cannot be a confidence in you.

- Issue a news release promptly and be out in front of the public whenever information need arises.

- Put yourself at the level of your audience.

- Make experts available to answer the questions.

- Have the courage to be honest and transparent from the first moment you start communicating on an issue of general interest, no matter how unpleasant the issue may be.

- Measure your confidence among stakeholders.

- Stay out of energy policy and keep an adequate distance to the licensees when communicating with the general public and news media.

The conclusions and recommendations of the Workshop have been submitted to and endorsed by the CNRA. They will be followed up by the CNRA Working Group on Public Communication of Nuclear Regulatory Organisations (WGPC).

OPENING REMARKS

WELCOME AND INTRODUCTION TO THE WORKSHOP

THE REGULATORY CHALLENGE OF BUILDING PUBLIC CONFIDENCE

L.J. Keen
President and CEO
Canadian Nuclear Safety Commission

Introduction

I would like to welcome you all to Canada's National Capital for what promises to be an exciting workshop. You will find that Ottawa at this time of year is a wonderful place to be with our Tulip Festival, and I hope that you will take advantage of the beauty our city has to offer. However, the real reason that we have invited you here is to discuss the universal challenge for all of us as nuclear regulators – building public confidence in our work.

In thinking about this speech, I reflected on the challenges that the nuclear regulatory community faces and will continue to over the years ahead with regards to public confidence. Some of these challenges will include:

- debate over the continued use of nuclear energy, diminishing supplies of fossil fuels, and increasing global energy demands;
- national and international discussions on the issue of nuclear waste disposal; and
- nuclear security concerns after 11 September 2001, within the broader context of safeguards and non proliferation.

These issues will present increasing demands for information and transparency with regards to the regulation of nuclear energy. How prepared is the international nuclear regulatory community to meet these demands and be deserving of the public's trust in our work?

An article entitled "Nuclear Energy and Civil Society" which appeared in NEA News in 2000, said "*Involving the public in government decision making … has become a necessity for effective governance. Policies that lack public support are policies that risk failure.*"

This morning, I present a challenge to the international nuclear regulatory community gathered here. Let us look holistically at public confidence and show innovation and boldness in building the public's trust. We must begin by:

- defining what is a "high level of public confidence." We must clearly understand our objective with regards to public confidence. What is the status of public confidence in your country and for your agency?

- promoting a regulatory culture which has as core goals service to our citizens and service to maintaining their trust in us in order that we can continue to ensure safety and security and meet our objectives; and

- creating new and innovative approaches to building and maintaining public confidence.

Nuclear regulators tend to emphasize the technical aspects of our work. However, by applying the same ingenuity which we use to solve many of our technical challenges, we will be able to lay some groundwork during this workshop for building public confidence in our regulatory work.

Defining public confidence

International nuclear regulators must examine our own situations to be able to define and measure public confidence in our countries. Culture, politics, and history vary from country to country, providing differing contexts for establishing and maintaining public confidence. What works in one country will not necessarily be effective in another.

However, experience has shown that public confidence has a number of universal characteristics:

- First and foremost, public confidence cannot exist without transparency and openness, and citizens must trust that they have the facts they need to debate and decide upon major issues.

- Equally important is a regulator whose independence and ethics are credible.

- Public participation, maintaining dialogue, and early and continuous consultation on regulatory matters are all hallmarks of a regulator who holds public confidence as a priority.

- And finally, accountability, competence and effectiveness are also fundamental building blocks of public confidence in a regulator.

If these characteristics help define public confidence, we must then ask if these building blocks are in place within our organisations. We must ensure that they are not just idealistic concepts, but cornerstones for building public confidence and trust in the regulator. We must question our programmes, policies and procedures. Are processes transparent and open? Are operations independent of external pressures? What does public confidence mean in a national context?

David Zussman, Executive Director of Canada's Public Management Research Centre, in his article "Declining Trust in Government: A Global Phenomenon" gives us an indication of the problems inherent in refusing to accept the importance of gaining the public's confidence. He remarks that "*when governments fail to maintain reasonably high levels of confidence, the trust and esteem people have for their government institutions … begins to decline, and persistent questions regarding problems of 'governability' begin to appear on the agenda for public discussion*."

Public confidence must mean that the regulator's image is one of being a credible, unbiased – and frank – source of information. It means having a willingness to acknowledge uncertainties and the limits of our technical understanding.

Citizens who understand how the regulatory process works and how their needs are being addressed reflect a regulator who has gained the public's trust. These results allow us to define and measure public confidence in our specific circumstances and countries. What measurement do you use to measure public confidence?

A regulatory culture that promotes public trust

Since the responsibility of regulators is to protect health, safety and the environment, regulators have a mission to serve the public. Without public confidence we are only able to do half our job. We must fundamentally believe in the principles of creating public confidence and promote a public confidence-oriented culture within our organisations.

Governments increasingly realise that we will not be able to effectively implement policies, as good as they may be, if citizens do not understand and support them.

In Canada, for example, following a ten-year environmental assessment of the feasibility of deep geological disposal of nuclear waste in the 1990s, a final report noted that:

"*The safety of the … concept has been … adequately demonstrated … [but it] has not been demonstrated to have broad public support. The concept in its current form does not have the required level of acceptability to be adopted as Canada's approach for managing nuclear fuel waste*."

To serve the public, the regulator must be reliable as well as be the "people's expert." Citizens must feel they are being served well by the regulator. In such a climate, the public will support decisions with which they may not agree strictly because they believe the process in reaching the decision was fair and legitimate.

The NEA Forum on Stakeholder Confidence in October 2002 noted that to serve the public, a regulatory organisation must have a culture which respects the integrity of individuals, their abilities, and their concerns. Many members of the public do not understand the scientific and technical aspects of the activities we regulate. It might be easy to conclude, then, that it is pointless to involve citizens in the intricacies and decision making of nuclear regulation, but this conclusion would be misguided.

A cultural shift must take place which moves the issue of public confidence from the margins of regulatory work to the foundation upon which all other work is done. A central element in this shift is the attitude of the regulator with regard to our own participation in public dialogue. We must move substantially beyond what we once called communication, and even beyond consultation. Each member of our staffs, technical or otherwise, must be an ambassador for the public's trust in regulatory work, keeping it central to the daily work they do. Regulators must promote a culture within our organisations where providing information is seen as an integral and valued part of the job of every employee.

The key is leadership – nuclear regulators must show leadership in building the public's trust. We must create organisations committed to increasing public confidence through the key elements of openness, transparency, independence and competence. Many international nuclear regulators have already begun this work, as we will see later in my presentation.

Creating public confidence

We must challenge ourselves and each other to discover creative ways to increase public confidence. New approaches will be needed to work through some of the obstacles.

Arguably one of the greatest challenges nuclear regulators will face is meeting the goals of transparency at the very time when increased risks of terrorism demand that more information be kept secret for reasons of security. This challenge may test our organisational culture and commitment to openness and transparency, but we must not let it carry us backwards to our former ways of conducting business.

I mentioned before that regulators must be committed to integrating social concerns into our risk assessments. This means dealing with the public's concerns and bringing solid risk communication principles into our regulatory work. The NEA Stakeholder Forum also raised this issue in its discussions on public confidence in 2002. Many of you are already responding to the challenge of integrating the public's perception of risk into your work and you are gaining their trust. Regulators must respect the concerns of citizens and learn to think outside our technical norms to encompass the social concerns of the public.

Evidence also indicates that regulators still have a large job in providing basic facts about nuclear energy. A 1998 poll for the United States' National Energy Institute showed only 10% of college educated US registered voters feel they are well informed about nuclear energy issues. In Canada, 66% of the residents in the province of Ontario don't know that nuclear power is the primary source of electricity in their province.

Regulators must show the public what we do and how well we do it. Despite the fact that many are struggling with limited resources, nuclear regulators have had many successes. Working internationally, we can learn from the best practices across the globe – both here in Canada and from organisations represented in this room.

Internationally, Finland's experience in finding a site for nuclear waste disposal demonstrates excellent public consultation and reflects a public confidence in the regulator that others would find enviable. Finnish citizens have an inherent confidence that science and technology, put to appropriate uses, can help solve most problems. This public confidence is a direct result from the hard work of their national nuclear regulator.

In Japan, the Nuclear Safety Commission holds public symposiums in local communities near where nuclear facilities are located. The NSC has found these symposiums to be effective in promoting open communication with the Japanese public.

In the United Kingdom, the Nuclear Safety Directorate has a specific goal identified in their Strategic Plan regarding furthering public confidence in the UK's nuclear regulatory system. They have begun a "Stakeholder Engagement Project" which aims to enhance public confidence in the NSD by increasing transparency in their decision-making process and engaging the public in dialogue.

In Sweden, they have a long tradition of openness, dating back to 1766 when the "transparent government" was introduced into law and which is now entrenched in the Swedish constitution. SKI, the Swedish regulator, has worked hard to make all employees part of the system of maintaining public confidence. All employees are trained to speak with media, and they are expected to be prepared to do so.

In the United States, the Nuclear Regulatory Commission issues a weekly bulletin which is widely distributed and informs the public of upcoming licensing issues and public forums where they can participate in the decision process.

Transparency and openness have become cornerstones of the modern Canadian Nuclear Safety Commission. Our organisation has worked vigorously to increase the openness of the proceedings for our licensing activities and our regulatory work. Commission proceedings are open to the public and media, and the public is encouraged to be involved in the licensing process. Commission documentation is openly available and easily accessible. The Secretary of the Canadian Nuclear Safety Commission, Marc Leblanc, will be giving a presentation on the public hearing and meeting process on Thursday.

The CNSC has begun an Outreach Program which will be building upon our established relationships with many of our stakeholders. In addition, we have published guidelines for licensees in an effort to aide their public information program activities.

We are also instituting regular cycles of stakeholder and public opinion research to evaluate the success of our work in creating public confidence in Canada's nuclear regulator. The results show that we have had some success. Our most recent survey indicates nearly 60% of Canadians are confident that Canada's nuclear industries are effectively regulated for safety. We would like to increase awareness of our regulatory activities so that this level of confidence can be increased.

Clearly, then, as an international community, regulators are responding to this important issue. I am sure that within this room there are many more examples of new ways to build public confidence and we look forward to hearing about them over the next three days.

Conclusion

An effective nuclear regulatory regime cannot exist without public confidence. Perhaps once considered a "nice to have," public confidence is now a "need to have." I hope this workshop can be a stepping stone in addressing some of the key issues: What is public confidence and what does it look like to you? How will we know when we have achieved it? How do we increase it? Which methods work and which don't?

Time after time, nuclear regulators name public confidence as one of our major challenges. The time has come to make public confidence an integral element in all we do and make it central to the work of good regulation. Our ability to meet the challenges of the future will depend on our ability to assure citizens that they can have confidence in regulatory regimes that are clear, open and accessible.

Adlai E. Stevenson Jr., former Governor of Illinois and a former US Ambassador to the United Nations, once said, "Public confidence in the integrity of the Government is indispensable to faith in democracy; and when we lose faith in the system, we have lost faith in everything we fight and spend for".

Each of us is a servant to that integrity. I challenge you to spend the next three days examining how we can rise to the challenge of building the public's faith in our work.

In conclusion, I would like to again extend a warm welcome to all of you to this workshop. I hope you find the proceedings, and your stay in our beautiful city, a memorable event.

NEA ACTIVITES REGARDING INTERACTIONS WITH CIVIL SOCIETY

K. Shimomura*
Deputy Director, Safety and Regulation, OECD NEA

Let me start by placing this meeting into the more general perspective of the OECD. The OECD is an organisation dealing with the world economy and making recommendations on policy for member countries very concerned with the relationship between governments and the civil society, a complex relationship because of the variety of groups included in what is referred to as civil society. The OECD has clearly identified that for governments it is increasingly difficult to take decisions on policy, if they do not take well into account and they do not establish a dialogue with the civil society at large. So the problem of relating to the public that we are going to see in this Workshop is not unique for the nuclear sector and is not unique for the safety regulators. Therefore, for the OECD, it is very important that we analyse how we can progress in having a better dialogue with the civil society in all the different aspects of government policy.

Let me now introduce the Nuclear Energy Agency. The OECD Nuclear Energy Agency (NEA) is composed of 28 countries, in Europe, North America and the Asian Pacific region, representing 85% of the world's installed nuclear capacity. The NEA mission is to assist its member countries in maintaining and further developing, through international co-operation, the scientific, technological and legal bases required for the safe, environmentally friendly and economical use of nuclear energy for peaceful purposes.

To achieve this, the NEA operates as a forum for sharing information and experience and promoting international co-operation; as a centre of excellence which helps member countries to pool and maintain their technical expertise; and as a vehicle for facilitating policy analyses and developing consensus based on its technical work. In doing this we cooperate closely with the IAEA and the European Commission.

The NEA develops its activities through seven Standing Technical Committees, which are composed of high level experts from regulatory authorities and technical institutions from member countries. Regarding interactions with civil society the most involved committees are the Committee of Nuclear Regulatory Activities (CNRA), the Committee on Radiation Protection and Public Health (CRPPH) and the Radioactive Waste Management Committee (RWMC). I will brief you about their activities in this field.

Let me start with the CNRA, the committee that is sponsoring this workshop. The CNRA is composed of high level regulators and is guiding NEA's programme regarding regulatory requirements, licensing and inspection of nuclear facilities and public communication. Dr. Laaksonen,

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* Since August 2005, Mr. Shimomura is working in MEXT, Japan.

chief regulator of the Finnish safety authority, is the current chairman of CNRA and is here with us today.

In a report published in 1998, *Future Nuclear Regulatory Challenges*, the CNRA had identified the interface between regulatory authorities and the public as a major future challenge. The Committee had concluded that in many countries there is little or no interaction between regulatory bodies and the public for a variety of reasons. Moreover, for those countries where there is already interface with the public, public participation varies widely from one country to another.

Then, in November 2000, the CNRA sponsored a workshop entitled "Investing in Trust: Nuclear Regulators and the Public". Some of us were at that meeting, which attracted a large number of high-level participants from nuclear regulatory bodies and radiation protection agencies.

One of the main conclusions of that meeting was that public communication is a key function in all regulatory agencies and that all regulatory body staff members must feel responsible for public communication. But also the meeting concluded that differences of approach between countries in this subject undermine public trust.

There was consensus at the end of the workshop and at the CNRA that ways should be found to continue sharing information and experience in the field of public communication of nuclear regulatory organisations. The Committee decided to set up a Working Group on Public Communication. Mr. Jorle, at this table, is chairing this group.

The NEA member countries, and in particular the regulators, are expecting that the activities of this group will help to address the major challenges in the field of regulatory communication to the public. Challenges as

- meeting freedom of information requirements and the need in some countries to respond to all requests from the public and the media;
- responding to public demands for involvement in major decision making;
- maintaining an appropriate balance between the need to inform the public and at the same time the need to encourage responsible media reporting of regulatory action; and
- responding to increasing pressure on regulatory body resources in some countries to accommodate public needs to participate in deliberations as well as the decision-making process.

Now let me turn to the activities of other committees. The Committee on Radiation Protection and Public Health has followed a pathway of national views and experiences to understand the benefits, challenges and implications of greater stakeholder involvement in radiation protection decision making. This committee has organised three workshops, all at Villigen (Switzerland), hosted by the Swiss Nuclear Inspectorate, with the objective of studying stakeholder involvement through practical cases. The main subjects of the meetings were:

- The societal aspects of decision making in complex radiation situations (1998).
- Better integration of radiation protection in modern society (2002).
- Implications of stakeholder involvement in radiation protection decision making (2003).

I can summarise for you the main lessons learned at Villigen meetings:

- Radiological protection must adapt to meet the needs of society and not the reverse.

- It is essential to foster mutual trust between the radiation protection community and society.

- Governments should develop specific approaches, clarify the respective roles of actors involved and see interactions with stakeholders as opportunities for mutual learning.

- Practical lessons, at the national and international level, can be drawn from specific case studies.

The Radioactive Waste Management Committee has identified public perception and confidence as one of the strategic areas where progress would be of most benefit to the further development of radioactive waste management programmes. The committee promotes common understanding amongst its members and provides a basis for enhanced dialogue amongst all interested parties. In this light, the RWMC launched the Forum on Stakeholder Confidence. The Forum is intended to review the experience of its participating organisations in outreach programmes, to identify and examine stakeholder confidence issues and to help prepare the dialogue across institutional and non-institutional boundaries.

The FSC has carried out intense and fruitful activities since its inauguration in 1999. The alternation of workshops in national context with FSC plenary meetings to assessing the lessons learnt has proved to be highly efficient. In a kick-off workshop in August 2000 the FSC analysed the changing environment for waste management programmes, identifying the issues of social trust, institutional framework, stakeholder involvement and decision making as main aspects. In a series of workshops in national context the FSC has gained a comprehensive picture of the Finnish, Canadian and Belgian cases, each time with a wide spectrum of country stakeholder participating and expressing their views on the topic as well as on the nature and process of their involvement. For example, the Canadian workshop one and a half year ago, in which some of you participated, discussed the Port Hope initiative and examined social concerns and ways to mitigate them. At the time being, the FSC is preparing a workshop to address the situation in Germany. Again, this workshop will give the opportunity to meet and discuss with locals in the area of Gorleben, the site of the much disputed German disposal project for high-level waste.

The feedback from these workshops suggests that among all the actors involved in the decision-making process, the sharpest change of role probably falls to the regulators. The traditional position worldwide has been that the regulators should not be too intensely involved with the waste management and disposal programme until the licensing process begins, since their independence might be legally compromised. This position is gradually changing toward a more active and visible role in the pre-licensing steps. It is one of the lessons learnt at the FSC, that the regulatory authorities, representing the interest of the public safety, should be involved early in the siting process.

In summary, I am very pleased that the CNRA has organised this Workshop to address this important question of public confidence in the regulator. I think that altogether, to analyse the good practices and where you can really advance in getting more trust for the regulators, is extremely important. Trust of the public in regulation and in the regulatory bodies is an essential element for the stability of our societies which are using nuclear power.

I expect the Workshop will provide an excellent opportunity to share information, news, documents, ideas and experiences in the field of public communication. I am convinced that we still have to learn from others about developments, techniques, procedures and achievements in the area of nuclear regulatory communication with the public.

To finish, I would like to thank the Canadian Nuclear Safety Commission and its President, Ms. Linda Keen, for hosting this important event. I also want to transmit NEA gratitude to the organising committee and the working group on public communication, for developing such an interesting programme. And of course, to the participants that will be the main actors of this meeting.

SCOPE OF THIS WORKSHOP

A. Jörle
Chairman, WGPC

The working group on public communication is one of two regular working groups in the CNRA family. My guess is that on the international level, a working group with the scope of sharing good practises on confidence building activities and transparency work of government agencies is a rather unique creature. These kinds of things are often considered national.

During the past years our discussions show to us that this is not entirely true. Our countries are closer than ever, communications and media rarely see any borders.

A few words on my computer could be at the office of Mr. Tanaka in Japan or Mr. Boyle in US within seconds and they can reply to me within a minute.

And exactly as we share technical aspects of our regulatory work, discuss good inspection practises we are sharing experiences of communication. All nuclear countries share the same critical mass; necessity of an independent regulator with a great portion of public confidence. In countries building even more nuclear power this is a key factor, in countries like my own with a huge portion of nuclear power still necessary for many years forward it is as essential.

When the group was created in 2001, the purpose expressed was the exchange on information (of operations) and practices and to discuss procedures in confidence building and public communication. When we meet we discuss events of the past and upcoming activities that might affect other regulators. We also go through cases of special interest, and inform each other on what we have done and what reactions we met.

Our group today have members from regulatory authorities in 15 nuclear powered countries. We are a mixed group of bureaucrats, technical staff and communicators. This has been especially fruitful because the different back ground is a creative force in discussions. I think this is also true at the office back home where big decisions are the product of a lawyers, engineers, and social science specialists. The communicators participate in the crucial meetings and are thus involved at an early stage of the process.

I think should this will be noticed in many of the coming discussions, the value of different angles to a problem or a topic.

The scopes of this workshop – why are we here?

We want to provide an opportunity to share information, practices and experiences. A communicator has a special role in our organisation.

We are a rather new working force of civil servants with the overall mission to ease the process of transparency and confidence building. Our job is to identify the needs of the surrounding society and advice our colleges on actions of transparency and confidence building activities.

We have our way of looking at the regulatory activities.

She or he should be advocate of the devil, early identify critical issues and necessary steps of transparency actions to be taken, follow the development of issues in connection with our regulatory activities, be in touch with media, often also be involved internally in the development of messages and the creation of a common view.

My career as a journalist began more than 30 years ago and the normal equipment was a telephone (on cable) and a typewriter (not necessary).

It is an understatement to say that the world is more transparent today.

On the other side; our opportunities as government organisations to send a message to the public, the politicians, media and other interest groups are better than ever.

In Sweden we talk about the "24 hour authority"; all around the clock service and access to general information, possibilities to make applications, to look into the activities of the government organisations.

Whatever our professional background; our job has its own procedures and require certain skills.

That's one of the reasons for us to be here. To share our experiences, to learn from each other and to come forward in the process of confidence building, a priority in any government agency, and especially in regulators dealing with nuclear facilities.

Once again, on behalf of the working group and the organising committee I hope that the days in front of us will be a success.

This workshop has been planned by Mr. Degueldre of AVN in Belgium, Mr. Demers of our host, CNSC, Mr. Isaksson of STUK in Finland, Mr. Dyett of HSE in Britain (not participating here), Mr. Boyle of US NRC and in its earlier stage of planning, Mr. Royen, who left CNRA activities in February.

I would especially like to acknowledge Mr. Javier Reig who began his work as secretary of the working group in February and rapidly engaged himself in the final work on the programme and all practical matters.

This workshop is kindly hosted by the Canadian Nuclear Safety Commission. All possible efforts has been made by the CNSC staff to provide service and facilities for our work, not to mention quite a few interesting items on the agenda. To Ms. Keen and her staff I would like to say, we are happy to be here, in fact the first, but hopefully not the last, activity outside of Europe by this working group.

INTRODUCTORY SESSION

WHAT IS PUBLIC CONFIDENCE? WHY IS IT IMPORTANT?

Round table:

Chair: Linda J. Keen (CNSC)

Co-Chair: Anders Jorle (SKI)

Members:

Dana Drabova (SUJB)

Jeffrey Merrifield (NRC)

Kazuo Sato (NSRA)

Alain Schmitt (ASN)

Paloma Sendín (CSN)

SUMMARY OF THE INTRODUCTORY SESSION

The Chair introduced the participant members whose interventions covered the first part of the panel facilitating the ensuing discussions. A summary of relevant issues arisen in the session is presented below.

On public sensitivity and participation

- Public participation should be considered and allowed in the regulatory decision making process.
- After a good scientific, transparency and independence base, the regulator has to transmit to the public its decisions and actions. Therefore public sensitivity has to be taken into consideration.
- When talking about public communication it is necessary to clarify who is the public. The society as a whole, neighbouring communities, the executive government, NGOs, utilities, others? Tools and strategies should be adequate for each target group.
- In small countries to pay attention to opinion and political interference from neighbouring countries is basic to maintain public confidence.

On what is public confidence

- Public confidence means credibility and trust.
- On public confidence, it is easy to define what it is not, like being popular. Trust worthiness implies not to be in favour or against nuclear energy.
- Cultural differences are essential to be recognised, what it is adequate for one country is not necessarily good for others, policies must be based on local culture.
- It is important to address the question of what public is the target. The general public might not be bearing the risks and therefore it might not be the right group, they might not even know the regulator.
- On confidence in what nuclear safety should be the ultimate goal and it does not depend exclusively on the nuclear regulator but on the licensee as well. Confidence on the regulator, and this is a slight difference, as the prime source of information, it should be based on having real power and recognition of a well established set of values like independence, transparency and making involvement of the public real.
- Public confidence in the regulator and performance are closely related. Any misconduct of the licensee has an influence about the confidence level on the regulator.

On why it is important

- It is important for the right operation of the institution providing a service to he public. Can a nuclear regulator continue to operate without public confidence?

- Feedback is necessary.
- Public confidence has to be taken into account for any policy implementation. The need of public confidence and support for any relevant activity is clear.
- There is a large responsibility sharing between nuclear regulator and licensees. It is the responsibility of the nuclear regulator to monitor and inspect if licensees are satisfactorily discharging their responsibilities. It is necessary to keep people satisfied and adequate confidence levels to be able to use nuclear energy.

On implementation aspects and the need to measure

- Good performance is not enough. Credibility and Trust is earned with care and effort but it is fragile and easy to loose.
- Information needs to be of the adequate quality, accurate, simple, consistent and regulators need to use methodologies and specialists in information and communication. Information should be developed according to the different target groups.
- Feedback on regulatory actions is key for improvement. Relevant issues include analyses and surveys on how regulators are seen from the Parliament, government, politicians etc, to the different groups of our civil society and the public in general. How to measure public confidence needs to be further considered as in the regulatory world still a lot should be done.
- Electric representatives should be considered among opinion related groups like media, teachers, local organisations and NGOs.

On public knowledge on the nuclear regulator and its activities

On the question related **to public knowledge on the nuclear regulator and its related activities** on other fields in particular like medical, industrial, transportation and any use of ionizing radiation:

- The need to transmit to the public what regulators do and that it is done properly.
- Incidents in other fields do happen. They are less dangerous but perhaps more frequent and with relevant public impact.
- Radiation is sometimes beneficial like in medical applications.
- Risk perception for other applications is high in general, but it is looked in a different way than power sources.
- Confidence is not necessarily tied to technical knowledge.
- Vicinities of nuclear plants are aware in general of what is going on. What is realistic for other radiation sources in terms of public knowledge has still to be considered.
- The need of people learning and training, in particular students, teachers and media personnel. Reactions to different sources differ and regulators should pay specific attention to each source of radiation.
- Regulators ought to think how they face challenges and feedback usage.

On the role of the licensees in building public confidence on the regulator

- Difficult subject but it is not regulators priority to be popular.
- Licensees have a role in the confidence in nuclear safety. It is not clear whether they have a role in public confidence on the regulator.
- The role of the licensees is limited in building public confidence. They are responsible to deliver a public service in all senses. Sometimes their priorities are more profit biased.
- The role of resident inspectors is relevant to this aspect. Utilities are aware of the importance of the information presented by regulators through the web and other means. Sometimes this information is more beneficial for them than for the regulator. The role of the utility is more related to public communication than building confidence on regulation.
- Regulators are responsible to monitor licensees, who are responsible of the nuclear safety of their plants. For regulators to be well known by the public is key to their role. The behaviour of the licensees is key to this purpose.

PUBLIC CONFIDENCE IN THE NUCLEAR REGULATOR

J. Merrifield
Commissioner, US Nuclear Regulatory Commission

Task Force on Public Communications

- **Charter:** **Development of an effective public communications program for the NRC**
- **Goal:** **Develop strategies for comprehensive and effective public communications with external stakeholders of the NRC**
- **Purpose:** **Provide recommendations for enhanced communication with external stakeholders, including the media, the public, Congress, Federal, State and Local Governments**

Task Force on Public Communications

- **Project Overview**:
  - Review existing Agency information programs on public affairs, outreach and communication of activities
  - Determine the communication needs of the Agency and identify any gaps or obstacles that may exist
  - Develop recommendations to address identified needs and close any gaps or obstacles found

Task Force on Public Communications

- **Task Force Membership**:
  - Assistant for Communications
  - Agency Meeting Facilitator
  - Regional Public Affairs Officer
  - Communications Specialists from major program offices
  - Executive Director - Chief Information Officer
  - Chaired by Commissioner Merrifield

Task Force Recommendations

1 **The Commission should provide a clear vision for external communications that supports the Agency's strategic goals and should require the development of an agency-wide communications plan responsive to this vision.**

2004 Strategic Vision

Excellence in regulating the safe and secure use and management of radioactive materials for the public good.

Task Force Recommendations

2 **The Office of Public Affairs should propose strategies and methods to implement the Commission's vision of external communications.**

- **Director of Communications**
- **New Director of Office of Public Affairs**

Task Force Recommendations

3 **The NRC should consider communications issues and their impacts before decisions are made and actions taken.**

- Communications Plans
- Targeted website updates (Davis Besse)

Task Force Recommendations

4 **The NRC should be more active in its outreach efforts to ensure that local communities have access to balanced and objective information on NRC's responsibilities and that NRC understands the concerns of local communities.**

- Direct outreach to towns and counties on key activities

Task Force Recommendations

5 **The NRC should measure the effectiveness of communication efforts.**

- Survey to measure openness

Task Force Recommendations

6 **The Office of the Chief Information Officer should coordinate enhancement of the NRC website.**

- First update in 2003
- Further review/enhancements planned
- Make website more useful for infrequent users

Task Force Recommendations

7 **The NRC should provide its staff with the tools to communicate effectively with stakeholders.**

- Effective risk communication
- NRC guidelines for external risk communications (January 2004)

Task Force Recommendations

8 **NRC should improve its business processes to be more responsive to stakeholder concerns.**

- Conduct review of when meetings with stakeholders are needed
- Changed structure of public meetings to allow for earlier public input

Task Force Recommendations

9 **NRC should expand the use of plain language in internal and external communications.**

- **Further reinforces need to speak in commonly understood language**

Task Force Recommendations

10 **The Commission should specifically consider improving communications with Congress.**

- **Significant difficulties associated with communicating security information post 9/11**

SESSION 1

HOW MUCH DOES A REGULATOR HAVE TO COMMUNICATE, HOW AND WHEN?

Chair: James E. Dyers

Co-chair: Michael L. Boyle

SUMMARY OF SESSION 1

How much does a regulator have to communicate, how and when?

- Challenges in communications can be directly due to the structure and politics of government at different levels.
- A basic tenet is that journalists are different from the regulator and the industry, they may have a basic suspicion of technology and those who use it.
- Two golden rules when communicating with the media: Always give them too much information and never miss a deadline.
- Be true to the three basics of communication: Message – what you say. Myself – how you say it. Media – who you are talking to. Also, repetition can be an effective tool to stress the message that you are trying to convey.
- Unfortunately, times change, the limits of full disclosure of information to the general public can be adversely affected by the actions of a few. Currently, the challenge in communications is the delivering the message of adequate level of safety and security without being able to discuss in detail why.
- On emerging issues like risk of aircraft strikes after 9/11. Through a timely analysis and release of information, it makes easier to satisfy the needs of the public as evidenced by the short time span that this issue appeared in the media.
- Implementation of a commitments document (with the help of consultant analyses, adoption of the European Foundation for Quality Management and its own soon to be effective FOI regulation and others) with those that it serve, is a challenging and effective way for improvement

INTERNATIONAL PERSPECTIVE: PROACTIVE COMMUNICATION

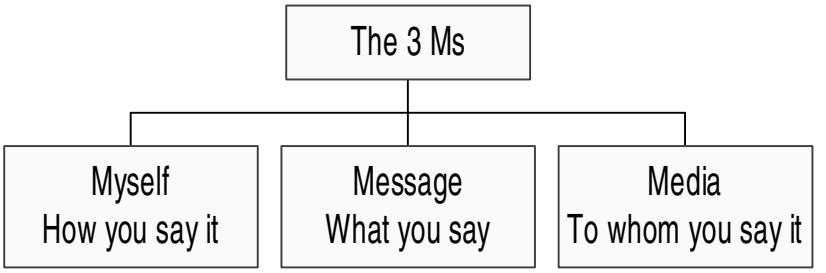
M. Gwozdecky
Chief Spokesperson and Director of Public Information
International Atomic Energy Agency, Austria

Nuclear communications: why bother?

Atomic leaks

International Atomic Energy Agency

The Basics



1. Message

The "please-the-boss" Press Release"

Slovak Foreign Minister pays courtesy visit to Executive Secretary
Vienna, Austria,

24 January 2003 - **Vienna, 24 January**
His Excellency Eduard Kukan, Minister for Foreign Affairs of the Slovak Republic, has visited Mr. Wolfgang Hoffmann, Executive Secretary of the Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization, at the Commission?s headquarters at the Vienna International Centre on 21 January 2003. Slovakia signed the Comprehensive Nuclear-Test-Ban Treaty (CTBT) on 30 September 1996 and ratified it on 3 March 1998. Slovakia is one of the 44 States whose ratification is required before the Treaty can enter into force.
Mr. Hoffmann, who undertook official visits to Slovakia in November 1997 and December 2001, extended his thanks to the Foreign Minister for the warm reception and useful discussions. He noted that Slovakia hosted the second On-Site Inspection (OSI) field experiment and equipment test in September and October 2001. This event was highly appreciated by all States Signatories.

- **Concise?**
- **Comprehensible?**
- **Timely?**
- **Prepare and practise**

2. Myself

- **Are you undermining your own message?**
- **Is the messenger credible?**
- **…because you are the message**

البرادعي ينظر في ساعته خلال مباحثاته مع الرئيس الإيراني
محمد خاتمي أمس حول خلافات وكالة الطاقة الذرية مع طهران (أ.ب)

International Atomic Energy Agency

3. Media

Respect your audience

Consider their agenda

Address their concerns

Make your message fit

International Atomic Energy Agency

1. Message:
Reiterate, Rephrase, Repeat

I have a **dream** that one day this nation will rise up and live out the true meaning of its creed: "We hold these truths to be self-evident: that all men are created equal." I have a **dream** that one day on the red hills of Georgia the sons of former slaves and the sons of former slave owners will be able to sit down together at a table of brotherhood. I have a **dream** that one day even the state of Mississippi, a desert state, sweltering with the heat of injustice and oppression, will be transformed into an oasis of **freedom** and justice. I have a **dream** that my four children will one day live in a nation where they will not be judged by the color of their skin but by the content of their character. I have a **dream** today. I have a **dream** that one day the state of Alabama, whose governor's lips are presently dripping with the words of interposition and nullification, will be transformed into a situation where little black boys and black girls will be able to join hands with little white boys and white girls and walk together as sisters and brothers. I have a **dream** today. I have a **dream** that one day every valley shall beexalted, every hill and mountain shall be made low, the rough places will be made plain, and the crooked places will be made straight, and the glory of the Lord shall be revealed, and all flesh shall see it together. This is our hope. This is the faith with which I return to the South. With this faith we will be able to hew out of the mountain of despair a stone of hope. With this faith we will be able to transform the jangling discords of our nation into a beautiful symphony of brotherhood. With this faith we will be able to work together, to pray together, to struggle together, to go to jail together, to stand up for **freedom** together, knowing that we will be **free** one day. This will be the day when all of God's children will be able to sing with a new meaning, "My country, 'tis of thee, sweet land of liberty, of thee I sing. Land where my fathers died, land of the pilgrim's pride, from every mountainside, let **freedom** ring." And if America is to be a great nation, this must become true. So let **freedom** ring from the prodigious hilltops of New Hampshire. Let **freedom** ring from the mighty mountains of New York. Let **freedom** ring from the heightening Alleghenies of Pennsylvania! Let **freedom** ring from the snowcapped Rockies of Colorado! Let **freedom** ring from the curvaceous peaks of California! But not only that; let **freedom** ring from Stone Mountain of Georgia! Let **freedom** ring from Lookout Mountain of Tennessee! Let **freedom** ring from every hill and every molehill of Mississippi. From every mountainside, let **freedom** ring. When we let **freedom** ring, when we let it ring from every village and every hamlet, from every state and every city, we will be able to speed up that day when all of God's children, black men and white men, Jews and Gentiles, Protestants and Catholics, will be able to join hands and sing in the words of the old Negro spiritual, "**Free** at last! **Free** at last! Thank god Almighty, we are **free** at last!"

by Martin Luther King, Jr, Delivered on the steps at the Lincoln Memorial in Washington D.C. on August 28, 1963

2. MYSELF:
Credibility

- **Compentence and Caring:** humanity
- **Humour:** Do you have any questions for my answers.
  - **Henry Kissinger, former US Secretary of State, at opening of press conference**
- **Honesty:** I don't know but I will get back to you.
- **Openness:** Show respect. Accept dissent

3. MEDIA

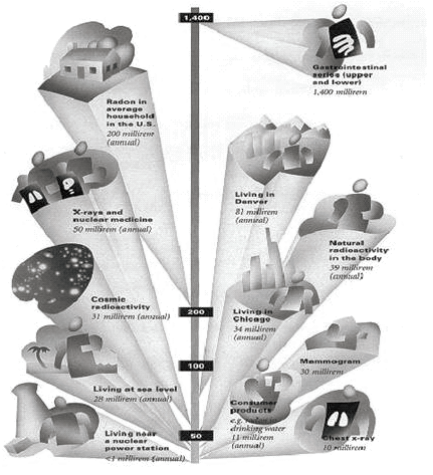
Commitment to Communications Culture

Transparency and acceptance of Risk

Management must commit and support spokespeople

More to be gained by engaging the media

A comprehensive approach



1. **Press release based on newsworthy issue**
2. **Supplement with visuals (B-roll, photos), use electronic means (radio, TV, web) and oral techniques (speeches)**
3. **Provide dynamic spokespeople and stage events or interviews**

The Press Campaign

- **IAEA Press Release 2003/11**

  Millions of Cancer Victims in Developing Countries Lack Access to Life-Saving Radiotherapy

  The number of cancer patients in the developing world will double to 10 million new cases annually by 2015 (World Cancer Report, World Health Organization, 2003), most of whom will have no access to the radiation therapy that could save or prolong their lives, and decrease their pain and suffering, the International Atomic Energy Agency (IAEA) says. Radiotherapy ranks with surgery as the most important methods of curing local cancer, according to the World Health Organization (WHO).

  "A silent crisis in cancer treatment exists in developing countries and is intensifying every year," says Mohamed ElBaradei, IAEA Director General. "At least 50 to 60 percent of cancer victims in the developing world can benefit from radiotherapy that destroys cancerous tumours, but most developing countries do not have enough radiotherapy machines or sufficient numbers of specialized doctors and other health professionals...."

Other ways to communicate effectively

- **educational program for media?**
- **charitable event that will earn recognition for your organization?**
- **provide products that can be used as prizes at events?**
- **awards for media coverage of an industry, issue?**

The Website

Leadership

- Get out there and communicate
- TV/radio talk shows talk, call-in shows
- Go on a multi-city media tour
- Provide training for experts and spokespeople

WHEN TO COMMUNICATE: NEVER TOO SOON, SELDOM TOO MUCH

P. Calamai
The Toronto Star, Canada

From a journalist's perspective, the question of when a regulator should communicate has two meanings:

- in what cases;
- how quickly.

My experience is that both are very important to journalists, and both are very difficult for regulators to define, and to deliver on. Regulators think that they understand deadlines and the need for quick action. Admittedly in rare cases, a real-life outcome might be compromised if a regulator is late by a few minutes.

For many journalists, and especially those of us in the daily mass media, being even one minute late is not an option. In my case, it means you miss that edition of the paper and hundreds of thousands of copies are printed without vital information included in an article, or perhaps without the article entirely. In the case of radio and television, being late means you miss the broadcast. And electronic journalists experience this pressure several times a day, perhaps hourly.

There is a constant tension in journalism between getting the story in time and getting it right. The glib answer is that we have to do both, but candid journalists will concede that getting the story in time outranks getting every last detail right, from a practical point of view. After all, there's always another newscast or the next day's paper to add further detail. Journalism may be history on the run, as it has been described, but any story is always partial, simply one instalment in a long-running saga. Like the builders who began medieval cathedrals, journalists seldom get to see the edifice completed, the final instalment written in the story.

That's one reason that journalists often will go with an incomplete story and not wait for the regulator to make a formal announcement about some incident or return a telephone query.

Why "when" matters so much to journalists

There are two other reasons why "when" – in both senses – is so pivotal to journalists, and why it can be a major source of conflict between us and regulators. First is the one which no doubt comes easily to the minds of regulators – competition to be first with some story, especially one of a controversial or spectacular nature. And of course, it's true that journalists compete among themselves to be first and that their outlets also compete for primacy. Yet despite the shibboleth that sensationalism is profitable, the evidence on circulation and viewership in North America supports a

contrary interpretation. But bragging rights and personal prestige are definitely involved in the race to be first.

In my view, however, a different force is actually the main reason why "when" is so important to journalists. It's service to our audience. If there are rumours of a spill at the nearby nuclear power station, our subscribers are going to expect the facts about this supposed spill on the next newscast or in the newspaper that's delivered the next morning. The same holds if their brother's co-worker told the guys at the bowling league that night that he saw a highway pile-up where one of the trucks dumped drums carrying the radiation warning symbol. Or when a local fertilizer plant wants to store more phosphogypsum and environmental researchers from the local university predict the resulting radiation will be "2 200 microsieverts."

There are dozens more real-life instances like these where the first definition of "when" isn't at issue so far as most journalists are concerned, but the second definition certainly is. I'm afraid that it's not terribly helpful for me to tell you that the answer to that particular when is "five minutes before I asked."

There is always going to be tension over "how quickly" because regulators want to make sure they understand all the relevant facts about some incident before putting their imprimatur on a public pronouncement. Journalists don't want to miss that next deadline. And I haven't even spoken about the pressure from all-news TV channels (we have two in Canada) where there is a deadline every 15 minutes, or from wire agencies (I worked as a correspondent domestically and abroad or such an agency for 20 years) where there is a deadline every minute, or news sites on the web, where the deadlines are probably measured in nanoseconds. My general advice would be: Never contribute to a journalist missing a deadline, even if all you are able to make public is that an investigation is underway.

Defining what's newsworthy

Beyond such obviously newsworthy events as those listed earlier, coming up with guidelines for the second instance of "when" – in what cases – is even more fraught, because it revolves around defining what constitutes news. My experience is that most journalists would expect a regulator to communicate voluntarily (i.e. without waiting for a query) whenever there is something newsworthy involved. There are whole academic tomes devoted to the subject of how journalism goes about defining "newsworthy" and unfortunately all I can tell you is that, like ethics, it can be very situational. For instance, a large metropolitan daily which has a 2 000 megawatt nuclear power station with a troubled performance history in its circulation area may well consider newsworthy anything which causes outages at that station. Certainly if the outage arouse from a development that was reportable under the regulator's guidelines, the newspaper would rate that as newsworthy and expect the regulator to communicate this information in a timely fashion and without being asked. However, a national wire service might very well not rate these same incidents as newsworthy, considering them as local events.

My advice would be to err on the side of communicating too much. I say this for two reasons. First, because journalists are already sceptical enough about the openness of regulatory processes, with good reason. The natural suspicion is that regulators are hiding information from the public. That was certainly the case with the Atomic Energy Control Board of Canada, the precursor to the CNSC. Using the then-new Access to Information Act in Canada, I was the first reporter to obtain the minutes of the AECB's hearings which had always been held in private. They revealed a disturbing cosiness with the nuclear industry and a remarkable absence of any expressed concern about informing the public. Recent experience around the world has undoubtedly reinforced a view among the interested public

that nuclear safety regulators still tend to be more sympathetic to the concerns of the industry they regulate than to those of the public.

There is another, more practical reason to err on the side of making too much information public. As demonstrated by Edgar Allan Poe's often-reprinted short story *The Purloined Letter*, often the best way to hide something is to place it in plain view. So if every even vaguely reportable incident from a licensee is automatically posted to the website of a regulator, most journalists are simply not going to wade though that morass. Of course, a few of us will try to.

PUBLIC COMMUNICATION CHALLENGES IN A FEDERAL NUCLEAR REGULATORY SYSTEM

Dr. C. Greipl
Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU)
Germany

1. Introduction

Thank you for this opportunity to speak about public communication under Germany's federal nuclear regulatory system. This system is probably unique worldwide: Unlike in other federal countries, such as the USA, Canada or Switzerland, Germany's nuclear regulatory system consists of two levels – the Federal government on the one hand and the federal States or Länder on the other.

To help you understand the public communication in this system, allow me to present a brief, simplified overview of German's nuclear regulatory system:

- The **Länder**, which have their own statehood in the government structure of the Federal Republic of Germany, are the responsible licensing authorities for nuclear power plants and final repositories.

- The Federal Office for Radiation Protection (BfS), in addition to its technical and scientific duties, is the licensing authority for interim storage sites and transports and the operator of a final repository.

- The Federal Environment Ministry (BMU) is the supervisory body for the Länder and the BfS. Its responsibility here covers both legal and expediency supervision, i.e. it can prevail over the Länder and the BfS in cases where it considers the procedure of the supervised authorities to be illegal or inexpedient. At the same time the BMU has principal responsibility for general administrative provisions and regulatory guidelines. Last but not least, as part of the Federal Government, it is also responsible for the preparation of legislation in the field of nuclear energy and radiation protection law.

2. Public communication by the nuclear regulatory authorities in Germany

I would now like to look at public communication by the main authorities in the nuclear sector. This will demonstrate the cooperation between them and enable us to draw certain conclusions.

2.1 Federal Länder

Of the 16 Länder, 5 have relevant functions in the field of nuclear energy because nuclear power plants are operated in these Länder.

The website of the **Bavarian environment ministry** contains wide-ranging factual information on the topic of nuclear safety, as well as reports of incidents. No information can be obtained about ongoing licensing procedures and no brochures are available.

The **Baden-Württemberg environment ministry** provides basic information on nuclear energy and significant incidents. Detailed brochures can be obtained. More specific information on licensing procedures is not available.

The **Hesse environment ministry** deals with nuclear energy under the topic radiation protection. However, there is not a great deal of information available, in particular no information on nuclear power plants, except in occasional press statements. Brochures are not available.

The homepage of the **Lower Saxony environment ministry** contains concise factual information, especially on nuclear power plants in Lower Saxony. Systematic information on licensing procedures is not to be found, except for a small section on increasing thermal capacity. Brochures are not available.

The **Schleswig- Holstein social ministry** offers detailed brochures on the phase-out of nuclear power and on radioactive waste management. It also reports on significant incidents.

None of these 5 authorities have any information on nuclear energy in English.

2.2 BfS

The Federal Office for Radiation Protection, a subsidiary body of the BMU, thoroughly revised its website last year and used public communication to highlight its role as a modern authority for the protection of the environment and consumers. Essential information is now also available on the website in English.

The BfS offers introductory texts on nuclear safety, radiation protection and radioactive waste management. With regard to the use of nuclear energy, the website contains quarterly and annual reports on significant events. The BfS as licensing authority provides excellent detailed information on current applications, on the status of licensing procedures, on public participation and on licences that have been issued. The full text of these is on the website.

There are also a variety of brochures, flyers, information sheets, annual reports, radiation-related topics and a newsletter. As a technical authority the BfS also publishes research results and tenders. It also deals with topics which are rather sensitive for public communication, such as dirty bombs or targeted aircraft crashes. In the course of the past few years, the BfS has moreover been able to establish itself as a competent and crucial contact partner in the field of mobile telecommunications. The role of the BfS in this segment of the market is apparent, for example, from the brochure "*Jugendliche und Mobilfunk*" (youth and mobile telecommunications) and the associated highly successful public relations campaign, which has received much praise in the media.

2.3 BMU

The main goal of the BMU's public communication is to provide transparent, rapid and competent information to citizens, media and NGOs on the following topics:

- Federal regulatory system for nuclear power plants, nuclear safety (including anti-terror measures and significant incidents).

- Phase-out of nuclear power as agreed in the contract negotiated with the energy supply companies.

- Technical supervision for interim storage facilities and transports.

- Activities of the Federal government as the responsible authority for final disposal.

- Mobile telecommunications, electromagnetic fields, radiation protection, emergency response, Chernobyl, Temelin.

- Research results, legal bases, replies to parliamentary queries and press statements.

Unlike the national nuclear regulatory authorities in many other countries, the BMU does not need to raise public awareness of its role as regulator: the German public is already familiar with this function of the BMU.

In contrast to a purely technical authority, as part of the Federal Government, the BMU naturally also highlights its political role. This occasionally leads to the BMU taking a more defined stance than the other responsible units, in that it clarifies the political positions of the Federal Government as the top executive authority and holder of the legislative initiative. Because of this political status, the BMU deals with the phase-out of nuclear power, while at the same time acting as the regulatory body for nuclear safety.

With regard to nuclear safety, the BMU essentially aims to ensure the highest possible level of safety during the residual operating times. Some sections of the German public are very critical of use of nuclear energy and it is therefore particularly important to promote transparency and public confidence in the nuclear regulatory system's capacity to guarantee safety. Considered in this specifically safety-related light, playing down the existing risks in our public communication is out of the question. On the contrary, risks must be clearly disclosed and presented with due criticism – and with self-criticism if necessary.

A propos self-criticism: there is a serious lack of information in English on this topic on the BMU English website pages. We need to make major improvements in this area.

3. Cooperation between the various authorities: some examples

To facilitate an overall assessment of public communication in the federal nuclear regulatory system, it is worth going beyond mere descriptions and illustrating the cooperation with a few concrete examples.

Example 1: Biblis incident

The specific nature of this incident was that the emergency core cooling system of Biblis A NPP was inadequate, so that the sump strainers had less capacity than required by the licence for construction.

The incident was reported for the first time on 18 April 2003 by both the Hesse environment ministry and the BMU. Both dealt with the matter competently, although the BMU report related more to the action required. The subsequent press statements of Hesse's environment ministry primarily accused the BMU of delaying the necessary backfitting. Later press statements from the BMU

endeavoured to give a factual account of the situation, particularly stressing the need to clear up remaining safety issues.

In my opinion, however, the differences in approach are best revealed in the final press statements on this incident: the Hesse environment ministry titled their release “Stoppage Ended” (on 1 January 2004) while the BMU announced (in the press statement of 26 December 2003): “Necessary Safety Measures in NPP Biblis A Completed”. This highlights the different focus of the two authorities. The Hesse environment ministry was mainly interested in NPP Biblis A recommencing operations, while the BMU was primarily concerned with improving safety.

Example 2: Philippsburg incident

This involved insufficient boric acid concentrations and inadequate levels in the water storage tanks.

The BMU was the first to make this incident public. While the Federal Ministry reported the incident on 29 September 2001, the authority primarily responsible – Baden-Württemberg's environment ministry – only informed the public ten days later. The increased extent of the incident was also announced by the BMU 3 days earlier than by Baden-Württemberg's environment ministry.

Example 3: impacts of heat in August 2003

In August 2003, large parts of Europe experienced the problem of river warming due to the prolonged hot spell, and this had consequences for cooling in nuclear power plants. The BMU did not issue any of its own press statements on this, especially as it was cautious in intervening in its role as federal regulator. The environment ministries of Lower-Saxony and Baden-Württemberg reported competently; two environment ministries (Schleswig-Holstein and Hesse) gave no information at all. The Bavarian environment ministry only informed the public reactively. Press statements were entitled, e.g. “Just Stirring up Panic” (13 August 2003), and “SPD at Boiling Point, Isar Cooling Down” (12 August 2003); this referred to the SPD as Bavaria's opposition party and to the Isar nuclear power plant. Thus the reason for making the press statement was not to provide the public with the necessary information, but to counter allegations made by the opposition, allegations which the general public was hardly aware of.

Example 4: The consequences of 9/11

In Germany, only a very restrained public communication is to be noted on this subject. The BMU only published some press statements on the topic. For deliberate reasons of secrecy and to avoid giving terrorists any clues which might assist their criminal actions, the BMU provided information on initial findings, in October 2001 and subsequently only made statements on specific matters after indiscretions led to parts of the expert opinion commissioned by the BMU becoming public, and press speculation was rife. The Länder almost completely refrained from public relations, clearly assuming that the topic was to be dealt with uniformly nationwide.

Example 5: licensing procedures for interim storage facilities

This deals not with actual or potential incidents, but with the information on licensing procedures for interim storage facilities in the vicinity of the plant. These procedures are conducted by the BfS as the BMU's subordinate authority. The BfS has published a press statement on each licensing procedure for an interim storage facility, on each of the accompanying public participations and on each conclusion of the licensing procedure. The BMU as the superior authority only issued

occasional press statements and these aimed only to reinforce publicity. No conflicts of interest between the BMU and the BfS are evident, so that public communication is not focused on differing opinions, but simply presents the facts.

4. Conclusions

What conclusions can be drawn from these different examples? Allow me to end by putting forward some ideas:

- Daily public communication in the form of press statements is heavily influenced by the conflict between the different federal levels; this means that the neutrality of public relations work is impaired, as each of the authorities are parties in the conflict within the federal regulatory system.

- Information is pushed into the background at times when those concerned feel that they must primarily distinguish their position from that of a supposed political opponent (such opponents are easily found in a federal structure, which often has different political majorities).

- Basic information on nuclear energy utilisation is not necessarily provided by the regulatory authorities. Firstly, there is no authority with overall responsibility for this and secondly nuclear regulatory authorities are not responsible for nuclear energy utilisation, but only for its safety.

- The multi-levelled nuclear regulatory system in the Federal Republic of Germany does have advantages, however, as demonstrated in the Philippsburg example: having a number of national levels ensures almost completely that an incident is not played down to the public or even covered up altogether. A multi-level system can favour strictly safety-related law enforcement and the corresponding public communication.

- All the same, we can assume that there would be greater focus on information if Germany concentrated its nuclear regulatory functions on a national level, i.e. if we – like many other countries – had one nuclear regulatory authority only. Such a reform of nuclear administration is actually one of the BMU's long-term projects, although, in view of the resistance from various quarters, the chances of achieving this goal remain uncertain.

"HOW TO COMMUNICATE ON SAFETY ISSUES WHEN SECURITY IS AT STAKE?"

The safety of the Swiss nuclear power plants in the event of an intentional aircraft crash – Motivation for and public impact of the survey performed by Swiss utilities and the Swiss Federal Nuclear Safety Inspectorate (HSK)

A. Treier
Swiss Federal Nuclear Safety Inspectorate (HSK)

1. Motivation for the Swiss survey

The terrorist attacks of 11 September 2001 on the World Trade Center in New York and the Pentagon in Washington added a new dimension to terrorism throughout the world. For the first time in history, fully fuelled passenger aircraft were used as offensive weapons against people and civilian buildings.

Within days, this new kind of threat scenario raised the question as to the consequences of an aircraft being crashed deliberately on a nuclear power plant (NPP). The main question was whether such an attack would produce a nuclear disaster.

A few days after the attacks, on 21 September 2001 the Swiss Nuclear Safety Inspectorate (HSK) notified the public in an initial statement "On the Protection of Swiss Nuclear Power Plants against Aircraft Crashes". It was published on the HSK home page. The statement contained the facts for all of Switzerland's nuclear power plants as known at that time. These included the design basis for the safety-relevant buildings, as well as the likelihood and consequences of an unintentional aircraft crash. Since there was no precedent for an event such as 11 September, no conclusive assessment could be presented in September 2001.

To establish more accurately the true extent of the risk represented by the new scenario, the Inspectorate asked the NPP operators to examine the effectiveness of their protection measures against a deliberate aircraft crash as early as 27 September 2001. Shortly after, on 4 October 2001, the Swiss government was motioned by members of parliament to present a report on the safety of Swiss nuclear installations against terrorist attacks.

The nuclear regulatory bodies in other countries with NPPs initiated similar studies as well. HSK set up an exchange of ideas and thoughts with other national authorities on the issue of deliberate aircraft crashes. However, exchanging ideas internationally was hampered because in many countries the subject was classified. The countries of the OECD have agreed that the detailed data, methods and findings of these investigations are to be classified to prevent leaking sensitive information to potential terrorists. The substance and results of the investigations in HSK's summary report were therefore largely of a qualitative nature; quantitative details and results were not made public.

2. Constraints and stages of the survey

2.1 Supervision in the social context

With the attacks of 11 September 2001, international terrorism took on a new order of magnitude in a number of ways. The scale of preparing and organising the attacks, the means employed, the nature of the targets, the devastation and the number of victims far exceeded anything experienced before. The means of assault and especially the targets are in respect of their size, their embodiment of power, but also their vulnerability, typical products of western technology.

This new magnitude of terrorism presents today's society with a serious problem. Menaces that prior to 11 September 2001 were deemed hypothetical or imaginable only in the context of fiction or film, have suddenly intruded upon our consciousness as actually feasible. Psychologists believe that what happened may alter in the long term our notions and estimates of residual risk and its acceptability. The overwhelming verdict is that the world has become less safe, and it is now harder to rule out certain attack scenarios from the outset on grounds of motivation or practicability. The 11 September 2001 has thus imposed a series of threat scenarios on the public awareness which can at any time strike anywhere, but particularly a great many civilian establishments in the services and industry. It is recognised that NPPs and other nuclear facilities are only one of a variety of possible targets where an attack could inflict severe damage on society. The nuclear power plants in Switzerland are among those industrial installations that enjoy the best protection.

2.2 Social-political issues

The attacks of 11 September 2001 raised many questions, including those of a socio-political nature. They concern, for example, society's entitlement to protection, and the reasonable residual risk. Worldwide discussion of such questions has shown how diverse the motives are for acts of terrorism, but also the difficulty of effective and all-embracing prevention within an open society on the western pattern.

It transpires from this that any close monitoring of assets that could be misused as means of assault or as targets, and of people that may be hatching terrorist activities, is not only difficult for fundamental reasons of society and the rule of law, but also simply not possible on practical grounds. The freedom-inspired moulding and evolving of all kinds of values adds greatly to the quality and capabilities of western social and economic models. Experts internationally express misgivings that blanket surveillance would seriously detract from these accomplishments.

2.3 Estimate of threat and risk situation

In a press release of 17 September 2001 the Swiss Federal Council stated that there were no signs of an immediate threat to Switzerland. Appropriate measures would continue to be taken to counter any already identified threat applying to certain embassies, consulates and other foreign establishments. A general strengthening or broadening of existing security arrangements was not considered necessary, and in keeping with this judgement of the situation the Federal Council's security committee was not convened.

2.4 Increased safety measures

Since the hijacking of four US passenger planes on 11 September 2001, airports and airlines everywhere have examined their security arrangements and tightened up access at all levels. In the

view of international aviation authorities and the industry itself, measures guarding against the hijacking of passenger aircraft have been greatly increased.

2.5 Sabotage and Facility Protection

After the attacks of 11 September 2001 the Swiss nuclear power plants and the relevant authorities together subjected their safety arrangements to a thorough re-examination. Similar steps have been taken in other countries as well.

At the federal level, two working groups were set up at the beginning of 2002. One of these groups periodically considers the protection of Switzerland's nuclear power plants against sabotage. The second group works at the international level. It is made up of representatives from seven European countries that utilise nuclear energy. The members regularly exchange information on the international threat situation and on sabotage protection in nuclear power facilities. In the opinion of these experts, the use by terrorists of "dirty bombs" is more probable than a release of radioactivity due to a plane deliberately crashing on a nuclear installation or sabotage at such an installation.

3. Public impact

In April 2003 the Swiss nuclear safety inspectorate (HSK) presented its report regarding the safety of the Swiss nuclear power plants in the event of an intentional aircraft crash at a media conference. More than 20 media representatives attended the conference. At the same time, HSK made the report available on its homepage in the internet (www.hsk.ch). For reasons of security, the HSK-report contains only qualitative and no quantitative data.

The Swiss media showed great interest in the subject. Their reporting was comprehensive. A few days after the conference, the subject had vanished from the Swiss media. HSK made a special effort to keep its communication open, transparent and comprehensible. According to the media reports on the subject, HSK was perceived as a credible safety authority.

However, following the press conference, the HSK was severely criticised by opponents of nuclear power e.g. Greenpeace. The criticism was focussed mainly on the fact that a study by the German GRS (Gesellschaft für Anlagen- und Reaktorsicherheit), which was classified as confidential, came to totally other conclusions compared to the Swiss study. Even parliamentary questions were raised. Furthermore, Greenpeace, together with other environmental organisations, made an official complaint concerning the competence of the HSK.

In its answer, the HSK could always relate to the published report and convincingly demonstrate that the risk to a nuclear power plant caused by an intentional airplane crash was small but not equal to zero. This was understood by the Swiss population. Important arguments were that firstly, the German study of the GRS was confidential, and it was thus not seen at the HSK, and secondly, the GRS study contained no assessment of risk. An assessment of the probability of occurrence of the analysed scenario was also missing. It could therefore be convincingly argued against external parties and internal Swiss administrative instances that the Swiss study went much further than the German one. This was even confirmed by German experts. Accordingly, a comparison between the two studies was not admissible.

Lesson learned

What have we learned out of this situation? It is decisively important to inform as comprehensively as possible. It is important to give a clear and certain message. In the case of the

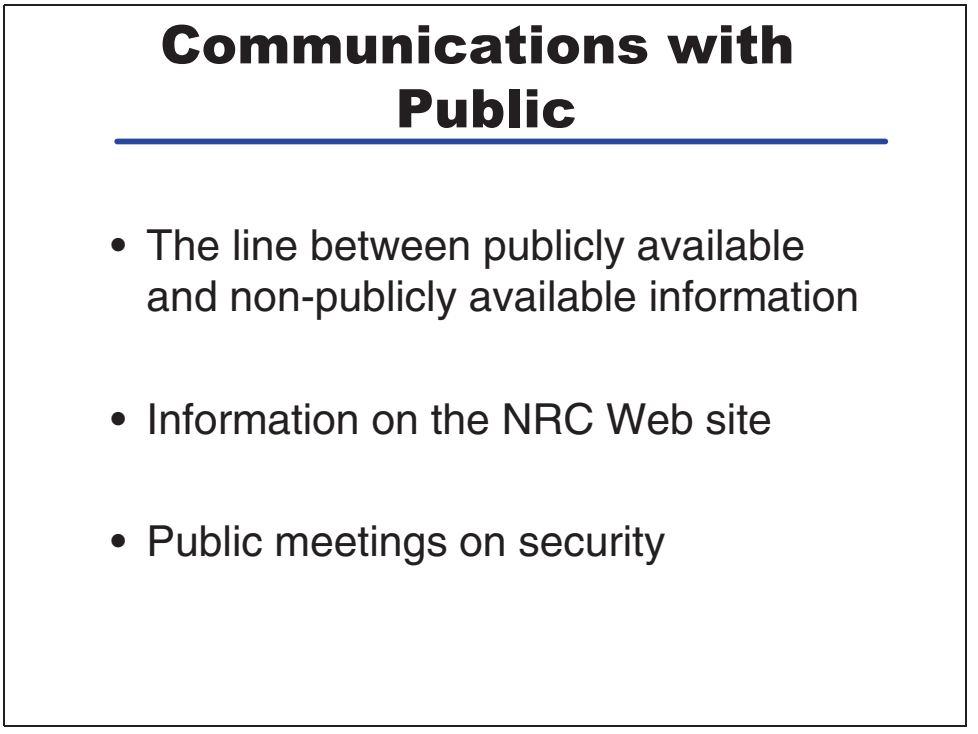
HSK this was: In the case of an intentional aircraft crash, the safety of the Swiss nuclear installations is significantly higher than we knew, based on the analyses at the time before 11 September 2001. Also, the risk of a large release of radioactive material is small.

This message was always clearly stated at press conferences, and afterwards in answers to questions. The message was also convincingly presented to the parliamentary commissions. Furthermore, insinuations from the side of opponents to nuclear power were absolutely discredited. As a consequence, aircraft crashes onto Swiss NPPs soon lost momentum as a theme. This is in contrast to Germany where the theme is being constantly revived whenever further details of the "confidential" GRS study leak out to the public.

Facit: Supply active, comprehensive and transparent information. It does not pay to hide facts or information.

CHANGES IN POLICY IN COMMUNICATIONS FOLLOWING SEPTEMBER 11

W. Kane
Deputy Executive Director for Homeland Protection and Preparedness (US NRC)



Communications with Licensees

- Methodology for rapidly communicating security related information to licensees
  - – Advisories
  - – Protected Web Server

Communications with Federal, State and Local

- Enhanced capabilities to receive classified information from other Federal agencies
- Staff participation on interagency security working groups
- State Outreach Workshop
- Communications with authorities regarding integrated response capabilities

NRC Internal Communications

- Secure telephones and facsimiles installed in all resident inspector offices
- Secure Video teleconferencing installed in headquarters and regional offices
- Enhanced training for NRC employees on the handling of classified information

SESSION 2

PRACTICES IN COMMUNICATING TECHNICAL ISSUES TO THE GENERAL PUBLIC

Chair: D. Drabova (SUJB)

Co-chair: P. Storey (HSE)

SUMMARY OF SESSION 2

Practices in communicating technical issues to the general public

- Basic goal for the regulator is to protect the public and communication is a must to fully achieve this goal.
- Regulator should become the prime source of information to the public and the media, regulator should base its actions upon values of competence, independence, transparency and stringency.
- Set up of a Information and Communication Policy will help for consistency and efficiency. Policy will include setting goals, strategies, organisational aspects, procedures, and tools. Practices should be developed in accordance with local culture.
- Challenges will consider transparency, public involvement and consultation with the stakeholders.
- Practices will include in general:
- Interactions with the media like press releases, news conferences, media workshops. Printed materials from plant periodical status reports, to periodical and annual reports and specific reports. Audio-visual materials. Use of radio and TV. Web site and electronic mail.
- Method chosen depends on the targeted audience and the relevance of the topic.
- Messages should be clearly understandable. Do not dehumanise the message by making it technically unintelligible.
- Two excellent examples presented. How local culture and social characteristics were taken into account in designing and implementing plans is key for success.
- Municipalities are to be considered as frontline stakeholders.
- Communicators' role is relevant to meet regulatory needs. Good collaboration between communicators and technical staff produces benefits for the nuclear regulator and the public.

HOW DO I COMMUNICATE WITH THEE? LET ME COUNT THE WAYS

E.A. Hayden
U.S. Nuclear Regulatory Commission

Many of us here are in the business of trying to explain and communicate complex technical issues in the regulation of nuclear energy to the average person on the street – often referred to as the "general public". I'm sure I don't have to tell you how challenging this can be. However, I believe we've come a long way over the last three decades.

In the early years of the Nuclear Regulatory Commission's predecessor, the Atomic Energy Commission, key decisions were made with little public discussion or information by a small group of individuals out of pubic sight. Atomic energy was considered a national security enterprise. But the shroud of secrecy began lifting on technical information as the government sought to stimulate growth of a commercial nuclear energy market.

Today there is a growing recognition of the importance of communication – that is, good communication. If the public is made aware of NRC and what it is saying and doing, then this in term can bolster confidence that we are doing our job in protecting public health and safety.

The NRC views nuclear regulation as the public's business and it has a right to know what the agency is doing to protect them from unnecessary radiation in the use of nuclear materials and generation of nuclear energy. One of the agency's top strategic goals is to ensure openness in its regulatory process. Communication is key to achieving this goal. In fact, recently, NRC Chairman, Nils Diaz, made it clear how important communication is to the agency by creating a new Director of Communications position to orchestrate and coordinate internal and external communications and by informing his senior managers that communications is one of his top priorities. We believe that as part of our efforts to achieve openness, we need to clearly communicate and explain the NRC's role, its decisions and actions, and technical issues of concern or interest to the public.

There are probably over a hundred definitions of "communication". However, for purposes of this presentation, I am defining communication as the process whereby we try to establish "commonness" with others. In communicating, we try to share information, an idea, or an attitude. In its very basic form, communication involves the sender taking information he/she wants to share, putting it into a form that can be transmitted by spoken word, print audio, or video and then getting the "picture in the head" of the receiver to resemble that in the head of the sender. Even if the receiver has an incorrect image, this is still a communication but it is "miscommunication". For successful communication, the sender and receiver must be in tune. Much of this depends on common knowledge or experience. If there is too little commonality, then it is difficult to get an intended meaning across from one to another. This is one of the primary difficulties we face when a non-scientist tries to read and understand an NRC physicist or engineer. To connect in this situation, we, as the sender or source, must try to make it easy for members of the public to tune in to our message and to relate it in some way to their experience.

Typically, NRC staff work with technical information, communicate often with other experts, and use detailed, intricate explanations with technical terms, unfamiliar to the average person. On the other hand, the general public may not understand technical details or have technical training and need relatively short, common-sense explanations. It is this gap that one of the United States' founding fathers, Thomas Jefferson addressed when he wrote:

"I know of no safe depository of the ultimate powers of the society but the people themselves. And if we think them not enlightened enough to exercise their control with wholesome discretion, the remedy is not to take it from them but to inform their discretion."

It is in this spirit that the NRC has made great effort to inform the public about its activities – or at least to make NRC information publicly accessible. So how does the NRC inform and communicate with the public and media on technical issues? The NRC uses a variety of dissemination methods, which I'd like to share with you.

Press Releases

One of the primary means of communicating with the public about NRC's business is through the use of well-written, clear and accurate press releases. This allows wide dissemination of information on Commission decisions, opportunities for public participation such as public meeting announcements and requests for comments on NRC proposals, nuclear plant performance assessments and special inspections, events at licensed facilities, violations of NRC requirements, and personnel changes. Press releases are provided to the media, posted on the web and mailed to interested individuals.

Only a few years ago, before the internet became popular, the public relied on the news media to convey the essence of NRC press releases. Today, however, any member of the public anywhere in the world can get news unfiltered by the media by reading NRC press releases on the our web site, thus providing a direct link between the NRC and the public.

News Conferences, Briefings and Speeches

For particularly news-worthy events, a news conference can effectively communicate special announcements by top NRC officials to a large group of reporters in one setting. This technique was used effectively by NRC's former Chairman, Richard Meserve, to talk to the national media about what the NRC was doing to strengthen nuclear security after the 11 September 2001 terrorist attacks on New York and Washington. Although not used frequently by the NRC, news conferences are employed when appropriate.

Media Workshops

Following the accident at the Three Mile Island nuclear power plant near Harrisburg, Pennsylvania in 1979, the NRC instituted a 2-day annual workshop for the media in order to explain nuclear technology and radiation protection. This helped reporters understand how reactors work and resulted in much more accurate reporting about nuclear power plants. Recently, the workshops have been revamped to cover nuclear issues that appear in the media across the country. The workshop provides reporters discussions with experts on current issues such as reactor head corrosion damage, nuclear power plant license renewals, high-level radioactive waste disposal, use of mixed-oxide fuel in reactors, and disposition of slightly contaminated material to name a few.

Printed Public Informational Materials

NRC has developed dozens of pamphlets, brochures, booklets and newsletters on various topics, data and programs within the agency. Two of the more popular and basic publications are a primer about the agency, "NRC Regulator of Nuclear Safety" and a booklet with various statistics and data about the NRC and nuclear power worldwide called, "The Information Digest". When the agency changed how it oversees nuclear power plants a few years ago, we developed the "Reactor Oversight Process" booklet which uses plain-English and diagrams to explain the new process. In addition to handing these publications out at public meetings and mailing them to those who write to the agency, they are all available on NRC's web site allowing access by virtually anyone around the world.

When the Davis Besse nuclear power plant encountered problems with a cavity in its reactor lid, the NRC determined that it needed to communicate its actions better to area residents. So we developed a monthly newsletter to keep citizens informed about the status of NRC oversight activities of the plant operator fixing the problems. Another newsletter is used by our Office of Nuclear Material Safety & Safeguards to communicate with users of nuclear materials.

Fact Sheets

The NRC has developed over three dozen fact sheets to help the public understand technical issues and NRC programs for protecting public health and safety. Some of the topics include: reactor licensing, nuclear waste transportation and disposal, nuclear security, emergency preparedness, reactor uprates and renewals, and biological health effects of radiation. These are typically each 2-3 pages long and are available on our web site and in hard copy for handing out at meetings and for mailing.

Web Site

NRC revamped its website about two years ago to make it easy to navigate using a logical site organisation. It contains an enormous amount of information and is kept current. For those nuclear issues or plants with high public interest, we have developed web pages specifically for them. The three significant advantages of the web site are: 1) it is capable of reaching very large audiences with vast amounts of information that can be made available fairly quickly; 2) it is a relatively low cost way of distributing documents; and 3) it provides news and information directly to the public on their desk tops without being filtered by the media. After the terrorist attacks on 11 September, 2001, the NRC took down its web site for a week and removed any information that clearly could be useful to terrorists in planning an attack on a nuclear facility. We continue to review documents for sensitive information, balancing national security concerns with our goal of "openness" with the public. Our web site is www.nrc.gov.

Media Interviews

Media interviews are conducted by telephone or in person with TV, radio and print reporters providing a two way communication which maximizes the chances of the media understanding technical and complex issues. We conduct telephone interviews almost daily for routine items, but should there be a high-profile issue, emergency, event, or breaking news involving a nuclear facility, as most of you know, the calls and interviews increase dramatically and we may decide on other means to communicate with the media such as a press conference. Our goal is to get the news reported accurately so that the public have the facts.

Public Meetings, Workshops, and Open Houses

Each year, the NRC conducts a public meeting at or near each of the 103 nuclear power plants at 66 sites around the country to provide its assessment of the plants performance. This meeting provides nearby residents with the opportunity to ask the NRC any questions they have that pertain to the NRC or the nuclear plant. A common topic of discussion at these meetings in recent years has been plant security and emergency preparedness. Although much of the information is classified, we attempt to give the public and the media as much information as we can to assuage their concerns without compromising national security. When the Davis Besse nuclear power plant shut down to replace its reactor head that developed a football sized cavity, the agency held over 50 public meetings within a two-year period.

We've employed a series of workshops on a number of occasions to obtain public comment on proposals and to further explain rule changes and how they affect our licenses or to discuss new programs such as our Reactor Oversight Program when it was put in place. Workshops may include presentations and exhibits or displays and usually ends with interactive working groups. Workshops have helped to maximize feedback from participants and foster ownership in solving problems. Exhibits or displays can help immensely in trying to explain issues and interrelationships. Truly a picture is worth 1 000 words!

NRC has held numerous open house meetings in the field either by themselves or immediately before a formal public meeting. This allows the public to meet our staff, gather information and engage in discussions on sensitive and sometimes controversial issues in a more relaxed environment than in a meeting. The open house forum is good for fostering small group or one-on-one communications and helps build credibility. We've used workshops successfully in Nevada to explain high-level radioactive waste issues and related NRC activities in advance of our review of the Department of Energy to build and operate a disposal facility at Yucca Mountain.

The method chosen to communicate technical information will depend on the level of public interest and importance to the regulator. In many instances, providing the public with clear, accurate and accessible information is all that is necessary or practical. In other cases, more interactive forums may be needed. Often, several methods are used to reach a larger audience such as giving a speech and posting it on the web.

Risk Communication

Risk communication is an interactive process used in talking or writing about topics that cause concern about health, safety, security, or the environment. Today's environment for risk communication is complex. Public fear and concern about exposures to hazards have increased along with a corresponding demand for information.

Conveying complicated, or "technical", information to the public in plain-language is a challenging task. However, conveying it in a non-threatening manner that doesn't scare or confuse the public is a particularly fine line. As professional communicators, members of the NRC's Office of Public Affairs walk this fine line on a daily basis. It is our responsibility to clearly present technical information without minimizing or exaggerating issues so that the public fully understands how it protects the public health and safety.

Regardless of whether it's conveying NRC's statistical approach to assessing potential health and safety hazards, such as radiation measurement or the agency's built-in conservatism, many members of the public find any degree of risk unacceptable. We need to understand that deciding on

acceptable risk is a value question, not a technical question. People will make their decisions about acceptable risk based on experience, their own values, or stake in the outcome. We need to look no further than the flurry of public activity taking place at the Indian Point nuclear power, located outside of New York City, where residents, elected officials and public interest groups are demanding a direct say in agency decisions regarding the future of the plant, whether it be a security issue or the facility's evacuation plan.

It's important to begin any discussion of technical issues with an explanation of NRC's approach to reactor safety and our concept of defence-in-depth that relies on the existence of redundant and diverse safety systems, well-trained operators, constant monitoring, reactor containment, and emergency preparedness. Without an explanation of how the NRC mitigates the risks of component failures, leakages or accidents, the public will not understand how our agency incorporates safety into the overall system. We strive to provide the public with the appropriate context to help them evaluate a risk.

Avoiding the pitfalls of agency and industry jargon and acronyms is a must. But it's necessary to go beyond that by setting the right tone, speaking as though we are addressing a relative or friend new to the topic. For example, we need to provide plain-language explanations of NRC jargon and expressions, such as "RPV", "ROP", "defense-in-depth", "core damage frequency" and "risk-informed regulation". In addition we need to avoid the urge to jump right into the details. Start with the big picture, such as who you are, what specific problem you are addressing and how it may affect the public. We need to remind ourselves that we are not talking to fellow experts and we need to refrain from using technical terms that dehumanize people, otherwise this could sends a message that we do not care about people as individuals.

Use of a range of tools and diagrams, outlines, photos and analogies help to explain issues. Pointing interested members of the public to credible sources of information outside the NRC is also effective.

In making numbers understandable, it is important to keep it simple, by using a few numbers as opposed to a string of them with many technical details, which confuse the audience. Using familiar units of measure and transforming scientific notation into concrete examples based on whole numbers can help the public understand the size of a risk. For example, a risk of 0.032 can be better expressed as "approximately 3 people out of 100 could be affected".

However, don't be seduced by the myth that emotion and controversy will fade away if you just explain the numbers. When communicating with the public about risk, be honest about the inherent uncertainties. The NRC's policy is that risk assessment be as realistic as possible. When new information and analytical tools provide more realistic answers, we need to explain how and why the results have changed.

Risk comparisons can also be useful especially when an audience believes you are well-intended. For example, one way to look at the cancer risk from living near a nuclear power plant is to compare it to common safety or health measures. In one year, a home smoke detector results in a similar amount of radiation exposure (.008 millirem) as living within 50 miles of a normally functioning nuclear power plant (.01 millirem).

You can also use comparisons to put risks in perspective:

When comparing people's average annual exposures to radiation (based on an average annual exposure of 360 millirem from all natural and manmade sources), it may be significant to your

audience that an individual receives about 200 millirem of radiation per year from naturally occurring radon gas, as compared to approximately 0.01 millirem for people living with 50 miles of a normally functioning nuclear power plant.

Communicating technical issues remains a constant challenge. However, packaging a response so it is appropriate for the audience is as important as the information conveyed. Doing so affects the public's view of the regulator's competency. Consider the audience's understanding of science, level of interest, underlying fears, perceptions of risk, and preferred methods of reviewing information. Acknowledging and respecting the public's emotional state, ensuring the public understands a specific risk or technical data in plain-language terms, are other sound strategies we use at the NRC.

Customizing the technical content of your message, simplifying numbers with familiar units of measure, weighing the benefits and pitfalls of risk comparisons, utilizing understandable charts and other visuals, and honestly explaining any uncertainties of risk assessments are all parts of the technical communications equation.

Presenting technical information in an uncomplicated and open manner can help bolster the public's trust in the regulator, as well as increase its receptivity to constructively understanding and discussing the issue. While technically proficient and well-motivated, NRC staff tends to speak and write documents that are difficult for the average person to understand. However, we are working to improve both the quality and clarity of our communication as a top priority in our agency.

COMMUNICATION PRACTICES OF THE FRENCH NUCLEAR SAFETY AUTHORITY (ASN)

A. Schmitt
Deputy Director General of the French Nuclear Safety Authority

Abstract

When it was created in 1973, the ASN was assigned the mission to inform the public on nuclear safety issues. The decree of 22 February, 2002 giving ASN the mission of supervising the radiation protection of workers, the public and the patients mentions that one of the main tasks of the ASN is to "contribute to the information of the public about the issues related to nuclear safety and radiation protection".

The ASN has been developing its actions in the field of communication and information of the public. Specific information media are therefore proposed to the public: ASN's website asn.gouv.fr, the news magazine *Contrôle*, the annual report "Nuclear safety and radiation protection in France", periodic press conferences, public information sheets, opening of the public information and documentation centre in March 2004.

The ASN aims to provide the public with information that is written to make it understandable by as many people as possible. This naturally leads the ASN to take further steps towards a more transparent approach, which in particular leads it to publish information about its supervision actions on its web site: inspections, formal notices.

At the same time, the ASN has decided to expand the public's options for easier consultation of the various administrative documents involved in certain administrative procedures, particularly "public inquiries", with the support of its public information and documentation centre.

Just as it tries to avoid saturating the information channels and strives to set up awareness and even training programs enabling the citizens or their representatives to gain easier access to information, the ASN whenever possible informs the various relays of opinion. Indeed ASN's intent is to address what it calls the "enlightened citizens", i.e. the persons who have a minimum knowledge of nuclear safety and radiation protection issues because of their responsibilities, experience or personal interest. It contributes in particular to regular information of the media, by organising thematic press conferences as well as encourages the action of the Local Information Committees (CLIs) which have been set up for each nuclear facility. The ASN also maintains ongoing relations with elected representatives and environmental protection associations.

AUTORITE DE SURETE NUCLEAIRE

Session: Practices in communicating technical issues to the public

Communication practices of the French nuclear safety Authority (ASN)

AUTORITE DE SURETE NUCLEAIRE

ASN'S COMMUNICATION PRACTICES

1. Why ASN communicates
   - Building relations with opinion relay and the media
2. Who communicates
   - ASN 's communication organisation
3. How ASN communicates
   - Preparing to communicate
   - Communication supports
   - Relations with the media
4. Today's challenges

Building, measuring and improving public confidence in the nuclear regulator
Session : *Practices in communicating technical issues to the general public*
Ottawa, Canada - NEA Workshop
May 18-20, 2004

AUTORITE DE SURETE NUCLEAIRE

ASN'S COMMUNICATION PRACTICES

1. WHY ASN COMMUNICATES

1.1. Background :

- **Part of ASN 's missions**

Decree of February 22nd, 2002 about the nuclear safety and radiation protection Authority: one of the main tasks of ASN is to

" contribute to the information of the public about the issues related to nuclear safety and radiation protection "

- **The information brought forward by ASN must stand on a different level from the licensee's**

regulator 's message „ licensee's message

AUTORITE DE SURETE NUCLEAIRE

ASN'S COMMUNICATION PRACTICES

1. WHY ASN COMMUNICATES

1.2. Objectives (1/2) :

- **Fulfill its role as a supervisor of nuclear safety and radiation protection at the service of the public**

- **Being a prime source of information regarding nuclear safety and radiation protection**

- **Establish ASN 's credibility :**
  - *competence*
  - *independence*
  - *transparence*
  - *stringency*

values of ASN

ASN'S COMMUNICATION PRACTICES

WHY ASN COMMUNICATES

1.2. Objectives (2/2) :

- **Being known by the media**

  ⇒ ***to make ASN recognized as an information source which is reliable and impossible to circumvent, especially in case of an emergency situation***

ASN'S COMMUNICATION PRACTICES

2. WHO COMMUNICATES

2.1. Brief description of ASN's organisation :

- **ASN is made up of :**
  - **at central level : DGSNR**
    201 employees (12.31.2003)
  - **at regional level : 11 DSNR**
    111 employees (12.31.2003)

ASN's Director general and his deputies are the spokesmen

ASN's executives (central and local) are allowed to communicate in their competence area

Local executives have close relationships with the local press

ASN'S COMMUNICATION PRACTICES

2. WHO COMMUNICATES

ASN's training in communication techniques and press relations :

A communication training policy was set up for executive staff at both central (DGSNR) and regional (DSNR) levels.

For each executive, the training has been adapted to his responsability level

Emergency exercices :

Most of the emergency response exercices (about 10 / year) include simulated media pressure on each player (licencee, ASN, local emergency authorities) **; this simulated media pressure is performed by journalists specially hired for the purpose.**

ASN'S COMMUNICATION PRACTICES

3. HOW ASN COMMUNICATES

DEFINITION OF THE SCOPE OF COMMUNICATION

What does ASN deal with ?

- **« Enlarged » vision of nuclear safety:**
  - radiation protection
  - protection of the environment
  - protection of public health
  - information of the public

- **Information on:**
  - safety (as defined above) of nuclear installations and radiation protection
  - ASN's action (regulations, decisions, inspections)

ASN'S COMMUNICATION PRACTICES

3. HOW ASN COMMUNICATES

DEFINITION OF THE AUDIENCE TARGET

- **The public in general**

- **Focus on the « enlightened citizens » :**
  those who have a minimum knowledge of nuclear safety and radiation protection issues because of their responsibilities, experience or personal interest *(e.g., elected representatives, national and local government representatives, journalists, teachers, members of associations for the protection of the environment, counterparts from foreign authorities)*

- **The media**

ASN'S COMMUNICATION PRACTICES

3. HOW ASN COMMUNICATES

COMMUNICATION TOOLS

1st : to know how to communicate and what to do / say

Internal tools (for ASN staff) :

- **INES scale**
- **Spokesman guide**
- **Guide of ASN 's standpoints**

2nd : Communicating concretly

Communication / information supports (to inform the public) :

- **annual report,**
- **news magazine,**
- **website,**
- **press conferences,**
- **etc.**

March, 31st 2004: opening of ASN 's information and documentation center in Paris

Building, measuring and improving public confidence in the nuclear regulator
Session : *Practices in communicating technical issues to the general public*
Ottawa, Canada - NEA Workshop
May 18-20, 2004

ASN'S COMMUNICATION PRACTICES

3. HOW ASN COMMUNICATES

ASN's SPOKESMAN GUIDE

Deals with :

- **Key principles and tools of relationships with the media** (how journalists work, what their expectations are, how to conduct a briefing and an interview, how to write a press release …)
- **Methods to maintain and improve relationships with the media** (what to do or avoid to do)
- **The spokesman's operational tools** (general messages, key words)

ASN'S COMMUNICATION PRACTICES

HOW ASN COMMUNICATES

« THE GUIDE of ASN's STANDPOINTS »

Deals with : *The reference for each staff member*

- **ASN and ASN 's history**
- **Public information**
- **General evolutions in the nuclear field**
- **Transversal topics (incidents, human factors, ...)**
- **Fuel cycle and transport**
- **NPP**
- **Environment, Emergency situations, Radiation protection**
- **International relations**
- **Recent events**

This guide is being updated, especially to include issues related to radiation protection

ASN'S COMMUNICATION PRACTICES

3. HOW ASNCOMMUNICATES

COMMUNICATION SUPPORTS

- **« Contrôle » news magazine**
- **Annual report on nuclear safety and radiation protection in France**
- **ASN's Website : www.asn.gouv.fr**
- **…**

ASN'S COMMUNICATION PRACTICES

3. HOW ASN COMMUNICATES

ANNUAL REPORT

Reference in the field of nuclear safety and radiation protection in France

AUTORITE DE SURETE NUCLEAIRE

ASN'S COMMUNICATION PRACTICES

3. HOW ASN COMMUNICATES

« CONTRÔLE », ASN 's NEWS MAGAZINE

Since 1978, « Contrôle » is released every second month :

the 2 last months events

- **Nuclear installations**
- **Transport**
- **Decisions, injunctions, authorizations**
- **Inspections, technical examinations , meetings**
- **Incidents**
- **International relations**

a special report on an particular aspect of nuclear safety or radiation protection

AUTORITE DE SURETE NUCLEAIRE

ASN'S COMMUNICATION PRACTICES

3. HOW ASN COMMUNICATES

- In 2003 *Contrôle* covered the following subjects :

- January **Safety and competitiveness** (n° 150)
- March **Nuclear safety and radiation protection in France in 2002** (n° 151) (= abstracts of the annual report)
- May **Dismantling of nuclear facilities: the new picture** (n° 152)
- July **Radon: risk assessment and management** (n° 153)
- September **Maintenance issues** (n° 154)
- November **Probabilistic safety studies** (n° 155)

- Apart from stating the **ASN's position on the covered topic**, *Contrôle* offers a forum for a **wide-ranging spectrum of opinions** (licensees, experts, associations, opponents to nuclear industry, foreign nuclear safety authorities, …).

- *Contrôle* is **free** and is distributed on the basis of **voluntary subscription**. *Contrôle* has a publication run of **nearly 10,000 copies** and 2003 was marked by a 20% rise in the number of subscribers.

Building, measuring and improving public confidence in the nuclear regulator
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AUTORITE DE SURETE NUCLEAIRE

ASN'S COMMUNICATION PRACTICES

3. HOW ASN COMMUNICATES

ASN's WEBSITE « WWW.ASN.GOUV.FR »

On line documents :

- **Decisions, injunctions**
- **Autorisations**
- **Letters following inspections**
- **Press releases**
- **Incidents information notes**

Other information notes

...

ASN strives to publish « raw » documents (no transformation) on its website, with explanation notes for the public

AUTORITE DE SURETE NUCLEAIRE

ASN'S COMMUNICATION PRACTICES

HOW ASN COMMUNICATES

ASN and the media

fi ASN has a policy of close ties with the media

• **Press releases** (events classified level 2 or more on INES scale, main publications and official reports, workshops and forums, emergency preparedness exercices, loss of a radioactive source …)

• **Periodic meetings with the media: press conferences held to present the annual report every year (at national and local levels) and *Contrôle* every two months**

Typical course of a press conference:

1. Presentation of the publication (annual report or *Contrôle*)

2. Questions of the journalists on the presentation

3. Questions of the journalists on the news (recent events, main topics pending …)

• **Interviews with journalists interested in a particular subject** (any relevant topic : earthquakes, heat wave …), **on request**

AUTORITE DE SURETE NUCLEAIRE

ASN'S COMMUNICATION PRACTICES

4. TODAY 's COMMUNICATION CHALLENGES

From communication to transparency and public involvement

- **Results from a legitimate demand of specific targets :**
  to have access, directly, with no transformation, to information about nuclear safety and radiation protection issues

- **ASN's response :**
  spontaneously and systematically make the following documents available to the public, in particular on the website :
  - Making « raw » documents (no transformation) available, like findings on the safety of nuclear installations (incidents, inspection...), ASN's decisions (authorizations ...) and injunctions
  - Accompanying these « raw » documents with explanations if necessary

AUTORITE DE SURETE NUCLEAIRE

ASN'S COMMUNICATION PRACTICES

4. TODAY 's COMMUNICATION CHALLENGES

Coming soon :

- **consultation of the stakeholders :**
  ASN has decided to expand the public's options for easier consultation of the various administrative documents involved in certain administrative procedures, particularly "public inquiries", with the support of its public information and documentation centre.
  ASN also wishes to expand consultation of the interested parties when drafting general regulatory texts. Experiments will be conducted in 2004.

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AUTORITE DE SURETE NUCLEAIRE

ASN'S COMMUNICATION PRACTICES

CONCLUSIONS

Nuclear safety and radiation protection is the public's business

ASN is aiming at giving the citizens the opportunity to build their own opinion about nuclear safety and radiation protection issues.

Clearness and openness are conditions of ASN's credibility as a regulator:

- competent in nuclear safety and radiation protection matters
- independent from the licensees
- autonomous with respect to political power
- **at the service of the public**

NGOs AND THE WASTE PROCESS IN SWEDEN

A. Jörle
Director Communication and Public relation, Swedish Nuclear Inspectorate, SKI

The programme of nuclear waste management in Sweden has been in force since mid-80:s and the main actor is the Swedish Waste Management Company, SKB. The company handles all kinds of nuclear waste. The most crucial problem, like elsewhere, is managing the spent nuclear fuel.

In the intermediate time this is well taken care of through an interim storage called CLAB, an underground facility close to a nuclear power plant where the fuel after use is planned to be stored during at last 30 years. Thereafter the idea is to have a final solution for spent fuel.

The technical solution is not the scope of this presentation (it is like in Finland a programme with encapsulated fuel in deep hard-rock storage probably well-known to most of you). But different from our neighbour country is the process of decision making.

While Finland already made a decision on the actual place where the nuclear fuel should be stored in the long-run, Sweden is still dealing with a slow but steady process of decision making.

We have had a step-wise process that in 1992 included an invitation to all municipalities in Sweden.

Until 1999 feasibility studies were carried out in 8 municipalities, during this period two of the eight had local referendum on the issue and left the process. Finally, in 2002, SKB made a decision to start site investigations in two municipalities, in 2008 a detailed investigation is scheduled to start if the regulator and the selected municipality approve. That includes the actual construction of a test site and deposition of about ten percent of the actual stock of nuclear fuel.

In 2020 the storage is expected to be in full operation if nothing unpredicted appears that affects the safety analyses.

It is important to stress that, on the contrary to our Finnish neighbours, no final decisions has been made about the actual site.

The NGOs

Already in 1981, at the peak of the antinuclear movement in Sweden, a chain of groups called the Waste Network, was created. At the time the movement opposed geological test drillings that were done in a lot of places to review the Swedish bedrock.

The Waste Network is a group of national and local interest groups. Until now most of the job is done voluntarily, though sometimes individuals asked to participate in meetings and workshops are

paid for travel and other expenses by the organiser of the event. So far no money has been provided for communication and information activities.

This has also been an essential part of the critic from people in the Waste network. SKB is based on the nuclear waste fund and has all its activities financed that way, research and development as well as siting process activities and communication.

The information budget is approximately 2,5 million US dollar, 2,1 million Euros every year. This includes campaigning, school activities, media relations, visitors' organisations and other means of communication.

That is 10 times more than the two regulators can afford.

Municipalities participating in the process can get a yearly support for their activities including local communication work. A maximum of 400 000 USD yearly is the amount allowed by the government.

This difference in resources has over the years been a major concern among the Waste Network organisations and often used as an argument against the process.

With the environmental legislation in force since 1999 more importance are paid to the environmental impact assessment (EIA). IN this assessment it is presumed that NGOs can/should participate along with regulators, applying company, county council and municipalities.

Thus the Waste Network demands resources to be able to participate as is the intention of the legislation.

This spring the government has proposed that the NGOs of the nuclear waste process to will get the opportunity to apply for money from the waste management fund. It suggested that this will be effective from August this year.

The possible amount of money is limited and the subject of the support also. The money should be used for participating in the waste management process and is not expected to finance general communication activities.

The limits decided by the government:

- Support can be given to an organisation with at least 2 000 members, with a board elected in a democratic process. This excludes Greenpeace that by definition is not a democratic organisation.

- It is a requirement that the organisation should use the legal right to participate in expanded consultation with environmental impact assessment. The support can be no more than 350 000 USD a year and the decision is limited to a four year test period, until end of June 2008.

- Money from this source cannot be used for information activities; pamphlets, flyers and other means of propaganda.

The actual idea is to give the NGOs resources enough to cover the expenses of having people closely following the environmental impact assessment process.

The issue was not controversial in Sweden though I personally would like to add a few reflections.

- SKI has the government mission to decide on the spending of money from the waste management fund. That includes approval of SKB's budget. SKI also decides on economical support to municipalities and now SKI will also, against its will, decide on the use of fund money towards the NGOs. At the same time, SKI is a major actor on the waste management scene, often forced to decide on approval on siting, research and development and use of fund money. By many people in the NGOs SKI is not considered neutral, or at least they do not share our views on the issue. How clever is it to give us the power of admission to the fund money? SKI should also check that the applying organisation or community adapt to the requirement decided by the government.

- The NGOs are quite small groups with no political platform. Why should such small groups receive rather big amounts of money? It is a big difference when it comes to municipalities. They have elected local parliaments and normally more than 80 per cent of the population participate in the general elections.

This last point was also identified in the government decision. In fact no one of the single member organisations in the Waste Network has a sufficient number of members. Therefore a possibility is created in the decision that a community of organisations with a top board elected on the same principles as required by a single organisation is accepted as a receiver of support.

It should not be taken for granted that the Waste Network or other organisations will accept the limits. They have historically been rather reluctant to participate in the process because they might be trapped by a decision which they eventually not support but anyhow has been involved in and had a possibility to stretch.

It could be more convenient to stay out.

ABORIGINAL COMMUNITY RELATIONS IN NORTHERN SASKATCHEWAN

C. Natomagan
Canadian Nuclear Safety Commission, CANADA

The Canadian Nuclear Safety Commission (CNSC) is best described as the nuclear energy and materials watchdog in Canada. The CNSC is an independent agency of the Government of Canada whose mandate includes the dissemination of scientific, technical and regulatory information concerning the health and safety of Canadians and their environment. Its operations are open to public scrutiny. The CNSC regulates all facets of the nuclear fuel cycle including nuclear power plants, nuclear research facilities, and uranium mines and mills. There are currently five operating and one active decommissioning uranium mine in Northern Saskatchewan. This centralised collection of uranium facilities impacts approximately 30 communities predominantly of aboriginal ancestry. Clear communication with the aboriginal communities presents a unique challenge to the CNSC. Impacted aboriginal peoples are interested in understanding all the potential impacts that uranium mining could have on their lands and communities and would prefer to receive this information orally. One step toward enhancing the regulator's relationship with local communities has been the unofficial role of a CNSC staff member who, in addition to being a qualified uranium mines inspector, is a member of one of those communities. The inspector's education, technical background in the industry, knowledge of the traditional lifestyles and culture, and active community involvement has enabled the CNSC to more effectively communicate its role as a watchdog of the uranium industry in Northern Saskatchewan. The inspector has participated in career symposia and local language radio broadcast interviews, he has been profiled in northern publications, and routinely interacts with aboriginal community leaders and aboriginal workers within the facilities that the CNSC regulates. By communicating regulatory duties, compliance results, and providing educational information, the CNSC continues to build on the trust that has emerged between it and the impacted communities of Northern Saskatchewan. This in turn enhances the development of the CSNC's strategic objective of being an open and transparent regulator.

PANEL SUMMARY

HOW TO INTEGRATE COMMUNICATORS AND TECHNICAL STAFF

Chair: Dana Drabova (SUJB)

Co-chair: Peter Storey (HSE)

Members:

Canada (M. Demers)

Finland (R. Isaksson)

France (A. Schmitt)

Sweden (A. Jorle)

USA (E. Hayden)

Dana Drabova and Peter Storey introduced the participant members whose interventions covered the first part of the panel facilitating the ensuing discussions. A summary of relevant issues addressed in the session is presented below:

On the need for Integration

- Good collaboration between communicators and technical staff produces benefits for the nuclear regulator and the public.
- Public Communication is a demanding activity, to answer questions is not enough. Regulator has to be active in providing information. Regulator has to be understandable, open and proactive. The right of access to all decisions and supporting materials has to be considered.
- Regulator has to remain active and cooperative by maintaining the full staff committed to public communication needs. It is quite clear that technical staff is not always aware of this need. Communication experts should be aware and sometimes work as journalists seeking the news. They need to meet with the experts.
- It is not fair to expect that technical staff fully understands what and how should be communicated, however it is important to train the experts in communication.
- Early involvement of communication is essential in order to succeed. This is the case on information to be posted at the web-site and how it is decided.
- Public is a legitimate target group for regulatory activities. Government is an important target for communicators and usually needs an adequate and clear language.
- Municipal authorities are probably the most important stakeholder.

On the role of Action Plans and Strategies

- Specific features of their respective organisations and plans were referred to by panel members underlying the importance of setting adequate strategies, action plans and organisations.
- Importance of early setting of strategies versus “quenching fires” was underlined in order to facilitates a full understanding and communication of challenges, plans and free flow of information between communicators and the technical staff.
- Relevance of tools and strategies availability. Sharing information is essential and enables to produce messages and texts for communication in plain language so as to be understood by the general public.
- Development of communication plans is essential to assure uniformity of patterns and to carefully consider coordination needs.

On Communication and Organisation

- Organisation has to remain flexible, it has to be defined and clear but it has to remain flexible enough and reactive.
- Special care should be observed on materials production to be posted at the web-site. It is basic to maintain a logical structure and its consistency. If materials are difficult to be found, it is not possible to speak about openness.

- It is important to facilitate interdepartmental contact between communicators and the technical staff.
- Communication is a specific skill that has a role in the process and has to be managed specifically. Technical people have to be trained in communication skills.
- Communication people have to be integrated in the organisation. Experts have to be trained in media relations and outside perspectives.
- The importance of local culture and the difficulty of drafting general rules have to be taken into account in each specific case. Different interfaces with the public should be identified and considered.
- Media contacts should be coordinated internally, prompt responses and internal communications are relevant aspects for success.
- Communicators keep the external face and reputation of the regulator.

SESSION 3

HOW DO REGULATORS MEASURE PUBLIC CONFIDENCE?

Chair: A. Schmitt

Co-Chair: E. Besenyei

SUMMARY OF SESSION 3

How do regulators measure public confidence?

- There are some important elements of confidence: visibility, satisfaction, credibility and reputation. The latter can consist of trust, positive image and knowledge of the role the organisation plays. A good reputation is hard to achieve but easy to lose.
- There is a need to define what public confidence is and what to measure. The difficulty is that confidence is a matter of perception of the public, so what we try to measure is the perception.
- It is controversial how to take into account the results of confidence measurement because of the influence of the context. It is not an exact science, results should be examined cautiously and surveys should be conducted frequently, at least every two years.
- Different experiences were explained:
  - Quantitative surveys – among the general public or more specific groups like the media;
  - Qualitative research – with test groups and small panels;
  - Semi-quantitative studies – among stakeholders who have regular contracts with the regulatory body.
- It is not clear if the results should be shared with the public or just with other authorities and governmental organisations.
- Efforts are needed to increase visibility, which is a prerequisite for confidence.
- A practical example of organising an emergency exercise and an information campaign without taking into account the real concerns of the people was given to show how public confidence can be decreased.
- We learned about a new method – the so-called socio-drama – which addresses another issue also connected to confidence – the notion of understanding between stakeholders around a nuclear site. It is another way of looking at confidence in a more restricted group.

WHY MEASURE PUBLIC CONFIDENCE?

A.M. Østreng
Head of Information
Norwegian Radiation Protection Authority
Norway

1. Introduction

The Norwegian Radiation Protection Authority (NRPA) is organised as a directorate under the Ministry for Health. The NRPA regulates issues relating to nuclear safety, contingency plans for nuclear emergencies and radiation protection. One of the tasks of the NRPA is to supervise the two research reactors belonging to the Institute for Energy Technology at Kjeller and in Halden. In 1986, the Norwegian Parliament decided that nuclear energy would not be used in Norway in the foreseeable future. With this decision, the research reactor programme became the only nuclear activity in Norway. The Halden Boiling Water Reactor was built in 1959, and is the plant utilised by the OECD Halden Reactor Project.

Norway was exposed to radioactive fall-out as a consequence of atmospheric nuclear tests in the 1950s and 60s, particularly those conducted over Novaya Zemlya. As a result of wind direction and precipitation, the Chernobyl accident in 1986 again exposed the Nordic countries to radioactive fall-out. In Norway, the effects were greatest in certain mountainous areas in southern and mid-Norway and the authorities implemented extensive damage-limitation measures in the food chain. Norway's proximity to a number of military and civilian sources of fall-out in north-west Russia should also be noted.

The NRPA regularly conducts surveys of the public and the media. The questions put vary depending on the target group in question. In the case of the media, the primary objective is to determine the NRPA's credibility as a source of information, and the extent to which the information provided by the NRPA is used by the media, compared with information provided by other sources within the same area of expertise. The questions put to the public are aimed at determining their perception of the threat scenario, what they view as the most likely threat, personal crisis awareness, confidence in the way in which the authorities handle crises, confidence in competing information providers and awareness of the NRPA. Starting in 2004, these measurements have been systemised with the establishment of a national radiation protection barometer.

This presentation discusses why the NRPA expends resources on measurements of this type and then briefly looks at key results from the most recent survey, conducted in 2004, with a particular focus on the questions that addressed confidence in and awareness of the NRPA.

2. Targeted communication activities

There is little knowledge and a great deal of uncertainty amongst the Norwegian public on issues concerning radiation. This can be attributed to a number of factors. This field of expertise is not

readily accessible to the layman. At the same time, however, the effects of, for example, nuclear accidents are well known. This lack of knowledge means that most people are dependent on statements made by experts or the information communicated by the media. An official report 19* published in August 1986 concluded that an "information crisis" had developed as a consequence of the (inadequate) way in which the authorities handled the Chernobyl accident. This was largely a result of the inability of the health authorities to meet the information needs of the public. Moreover, according to the report a "crisis of credibility" also occurred. This was due to the content of the information provided by the authorities to the press and public, which contained factual errors and incomplete information as well as inaccuracies, ambiguities and unanswered questions. The Chernobyl accident can therefore be said to represent a turning point. The crisis awareness of the population about issues relating to radiation and its effects on health increased. The need for the authorities to improve the way in which they organised their contingency plan became apparent, and this included acknowledging that information strategies constitute an integral part of preparedness. The Crisis Committee for Nuclear Accidents was established in 1998, headed by the NRPA and comprising the government agencies with the necessary expertise to handle events of this nature. Day-to-day responsibility for work on preparedness and information dissemination in connection with radiation and its effects on health, including accidents outside Norway that may impact upon Norwegian territory, rests with the NRPA.

The primary objective of the NRPA's information and communications activities is to disseminate knowledge about radiation and radiation protection to the public, with a view to influencing decisions and behaviour in the direction of the protection of life, health and the environment. However, this goal makes major demands on the NRPA's credibility and trust in the eye of the public. To be able to influence decisions and change behaviour it is essential that other public authorities, users of sources of radiation, the public and the media are able to trust that the information we provide is complete and correct. In addition, however, people must know who we are. Put simply: you will listen to advice from someone you trust and you will attach more credence to a person/agency you know than you will to a person/agency you have never encountered before.

Thus the allocation by the NRPA of resources for information work and the perception of this work as an integrated part of the work of the agency is an essential prerequisite for achieving trust. Nevertheless, this is of itself not sufficient. Information activities must be visible, they must make an impact on the media so that a "recognition effect" is achieved.

There are a number of ways of evaluating the visibility of our information activities. One approach is to measure information campaigns on the basis of the number of stories in the media during the course of a specific period of time. Over time this will indicate a trend. Here it might be useful to examine the types of subjects discussed in the stories and the approach taken, the employees on which attention was focused etc. A second means of evaluating the effectiveness of information activities is to look at the demand for information products or the number of hits on our home pages. A third method is to conduct regular surveys of the public, of users of radiation sources and other target groups. Measurements of this nature provide an opportunity to acquire systematic knowledge over time of the familiarity and trust enjoyed by our agency amongst our target groups, as well as to determine the information requirements of these target groups. As do a number of other public authorities, the NRPA has several target groups. In order to succeed with our information activities, the contents of the information provided must be tailored to the needs of the individual target group. Which target groups will be the most "important" will vary from case to case. Similarly, the choice of communication channels will be based on an assessment of the needs of the targets groups. This in

* NOU (Norwegian Official Report) 1986:19 Information crises. Publ. Universitetsforlaget.

turn necessitates knowledge about the target groups. The National Radiation Protection Barometer is an aid to acquiring this knowledge.

3. The National Radiation Protection Barometer

The National Radiation Protection Barometer is a means of helping the NRPA to monitor our reputation and our position with the public and as the agency responsible for matters pertaining to radiation protection and nuclear safety, as well as to provide systematic information on the knowledge and attitudes of the public towards issues relevant to preparedness, including changes over time. The Barometer is also intended to strengthen the NRPA's information campaigns through internal and external channels.

In 2004, a population survey has been conducted (nationwide representative sample with 1 000 respondents aged over 18) based on a similar survey conducted in 2001. The 2004 survey covers the following themes:

- Assessment of threat scenarios in the form of the likelihood of various types of accidents and events;
- the most likely events;
- personal crisis awareness;
- confidence in the ability of the authorities to handle crises;
- confidence in competing information providers;
- choice of source when seeking information;
- the most effective information channel for the authorities;
- awareness of the NRPA;
- assessment of the radiation hazards in everyday life in the form of awareness of effects on health;
- impressions of the information provided by the authorities about radiation hazards in everyday life.

3.1. Some key findings

Assessment of threat scenarios

In the survey, the respondents were asked to evaluate the likelihood of various types of accidents and events occurring during the course of the next five to ten years. Questions were asked about the following specific events:

- An accident at a nuclear power station in areas neighbouring Norway.
- An accident at one of Norway’s two research reactors.

- An accident involving a nuclear submarine in areas neighbouring Norway.
- An accident involving a consignment of hazardous radioactive material carried by road/rail in Norway.
- Radioactive pollution as a result of acts of terrorism or sabotage in Norway.
- The use of nuclear weapons in conflicts, crises or war.

Almost three quarters of the population believe that it is likely that a nuclear accident will occur in Norway's immediate vicinity within the next five to ten years. Moreover, over half of the population believe that it is likely that an accident involving a nuclear submarine will occur in areas neighbouring Norway. These two events are regarded as the main threats by all parts of the population. A small percentage – 17% – believes that it is likely that an accident will occur at one of Norway's two research reactors. In response to a follow-up question about what is viewed as the most likely of the events listed above, only 2% of the population answered an accident at one of Norway's two research reactors. It is reasonable to conclude that these responses reflect a high level of confidence amongst the public in the security at our facilities.

Confidence in the ability of the authorities to handle crises

The confidence of the public in the crisis-handling abilities of the authorities is measured by means of the following question: How do you believe the Norwegian authorities will cope with events of this type, i.e. accidents involving radiation? The main figures indicate that 51% of the population have confidence in the ability of the authorities to handle an accident involving radiation. 47% express a lack of confidence and 2% don't know. Confidence in the crisis-handling abilities of the authorities is lower today than it was in 2001. In 2001, 65% of the population expressed confidence in the crisis-handling abilities of the authorities, 31% expressed a lack of confidence and 4% replied don't know. The reasons for this change are not easy to assess. One possibility is that the range of threats is now perceived as broader and more serious than was the case just three years ago (prior to 9/11). It may also be that people are not fully aware of the resources available and the contingency plans in existence. The Chernobyl accident is still in the foreground of many people's memories. A perception that the authorities could do little one way or another in a crisis, irrespective of their preparations may provide an explanation. In the 2001 survey we found that approximately 60% of the population felt powerless to protect themselves against radiation. By extension, many people may feel that the authorities too are unable to do much one way or another.

Confidence in competing information providers

In 2004, we posed the question: If different and conflicting information about a nuclear accident was provided by the Norwegian authorities, research communities and environmental organisations such as Bellona, who would you trust most? We put the same question in 2001, except that the term "foreign experts" was used in place of "research communities". In 2004, 21% stated they would place most trust in information provided by the Norwegian authorities. Confidence in the two other information providers is significantly higher (over 30%). At the same time, we note that confidence in the Norwegian authorities is markedly lower in 2004 than in 2001. In 2001, 41% stated that they would place most trust in information provided the Norwegian authorities. The reason for this is difficult to assess, but it may have something to do with the NRPA's visibility and continuity of presence in the media, perhaps particularly in comparison with other sources that attract frequent media attention. The foundering of the Russian nuclear submarine Kursk in the Barents Sea in the

autumn of 2000, and fears of terrorism in the wake of 11th September 2001, resulted in an increased focus on the NRPA in the Norwegian media.

Awareness of the NRPA

The following question was put in both 2001 and 2004: Do you know which public body is the primary source of technical expertise on radiation and nuclear safety issues in Norway? The question was unaided. Awareness of the NRPA today is lower than in 2001. Today, 25% of the public give the correct answer, compared with approximately 35% in 2001. We have registered a corresponding increase in the proportion of the population who respond that they don't know. In 2001, 57% responded don't know, whereas in 2004 the figure was 69%. The background figures show that the highest awareness of the NRPA is found amongst those with higher education. Awareness is 39% amongst respondents with college/university educations, as compared with only 4% amongst people with no further education beyond secondary school. Awareness of the NRPA is also low amongst women and young people. There are only minor regional variations. Although our recognition factor is sinking, if the 2004 figures are compared with those from 2001, the fact that 25% of the Norwegian population are aware of the NRPA is, nevertheless, a very high figure for a public body.

4. Conclusion

Summing up some of the main findings of the populations survey conducted in 2004, we see that the population has a high level of confidence in security at Norway's two research reactors. At the same time, confidence in the ability of the Norwegian authorities to handle a crisis is lower than in 2001, whereas confidence in competing information providers has grown. Awareness of the NRPA is also lower, although it remains high by Norwegian standards.

The results of the survey show that the NRPA has a great deal of work to do in the future. The survey results from 2001 and 2004 have identified a negative trend. At the same time, these results provide a valuable insight into interesting differences between women and men, age, levels of education and geographical location and thus represent a useful input into our efforts to target our information activities more precisely.

The NRPA must work to restore the public's confidence that the Norwegian authorities have effective and safe crisis-handling procedures in place that can make a difference. Above all, we must step up our information campaigns about existing resources and contingency plans and the measures that people can take at an individual level in order to reduce the health risk to themselves and their loved ones. Raising our profile in the media is another area to which high priority must continue to be given. Our recognition value depends on this visibility.

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RISK PERCEPTION AND PERCEPTION OF ASN BY THE FRENCH GENERAL PUBLIC

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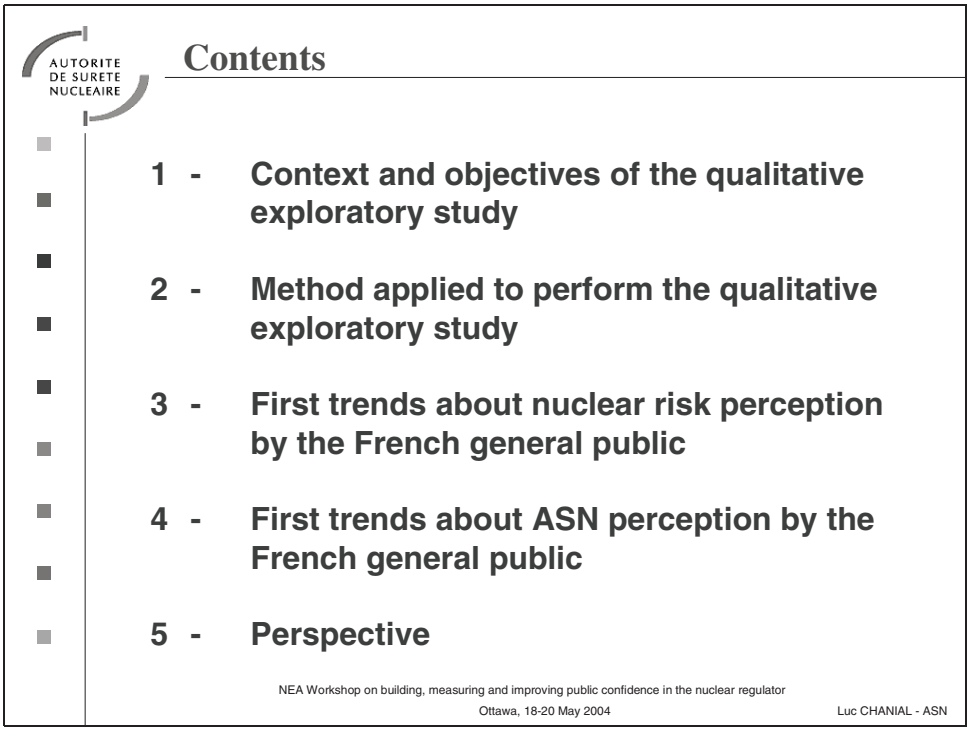

AUTORITE DE SURETE NUCLEAIRE

1 - Context and objectives of the qualitative exploratory study

- In 2002 implementation of an institutional reform aiming at
  - Unifying supervision of nuclear safety and radiation protection in France
  - Improving the resources devoted to supervision of radiation protection
  - Clarifying the status of the Institute for Radiation Protection and Nuclear Safety (IRSN)

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1 - Context and objectives of the qualitative exploratory study

- ASN is now in charge of supervision of
  - Nuclear safety in nuclear installations
  - Transportation of radioactive and fissile materials for civilian use
  - Production and use of ionising radiation
  - Management of radioactive waste and contaminated sites
  - Naturally-occurring ionising radiation

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1 - Context and objectives of the qualitative exploratory study

- In this context in order to better understand :
  - what is the risk perception
  - what is the perception of ASN

by the French general public

→ ASN launched a specific study in 2003
- ✓ communication tool for ASN
- ✓ exploratory stage
- ✓ supposed to lead to a complementary and quantitative study

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1 - Context and objectives of the qualitative exploratory study

- The main objective of this exploratory study is to obtain some trends to perform a more comprehensive and detailed study
  - Help ASN in its communication strategy aimed at
    - ✓ professionals
    - ✓ the general public
  - Give ASN the right perception of the needs and expectations of the public

2 - Method applied to perform the study

- 4 specific groups of about 6-8 people
  - The "enlightened citizens" : have a minimum knowledge of nuclear safety and radiation protection because of their
    - ✓ responsibilities
    - ✓ experience
    - ✓ personal interest
  - The information professionals and opinion relays
    - ✓ media
    - ✓ environment protection associations
    - ✓ elected representatives
    - ✓ teachers

2 - Method applied to perform the study

- 4 specific groups of about 6-8 people
  - The healthcare professionals
    - ✓ dentists
    - ✓ physicians
    - ✓ radiologists
  - The workers directly concerned with radiation
    - ✓ workers in the nuclear activities
    - ✓ others professionals : flight crews

2 - Method applied to perform the study

- First : 6 meetings of 3 hours
  - 18-25 year old people living near Paris
  - 25-35 year old people living near Paris
  - Nuclear workers living near Tours
  - People living in Tours near NPP
  - Information and communication professionals

.../...

2 - Method applied to perform the study

- Then : individual interviews of an hour and a half
  - Experts (physicians, radiologists…)
  - Opinion relays
  - Nuclear workers
  - Flight crews
  - Pupil's parents living in a radon exposed area
- The purpose of these interviews was to identify specific topics representative of trends on which next complementary study(ies) could be performed

3 - First trends about nuclear risk perception

General trend

- On the whole the "general public" tends to put the nuclear risk into perspective
  - 18-35 year old :
    - ✓ world has many kind of "risks"
    - ✓ nuclear risk is a risk like any other one
    - ✓ nuclear risk seems to be under control
    - ✓ no particular fear
  - in the vicinity of the NPP :
    - ✓ similar trend to consider the risk under control
    - ✓ no trend to dramatize recent events

3 - First trends about nuclear risk perception

General trend

- Flight crews or people exposed to natural radioactivity are not specially aware of a particular risk
- Different feeling for people directly exposed to radioactivity in their professional activities
  - Feeling of good supervision, knowledge, protection and optimism in the case of nuclear workers
  - Mixed feeling between fatalism and vigilance in the case of physicians

3 - First trends about nuclear risk perception

General trend

- Public sensitivity to nuclear risk
  - Weak
  - Related to the news
  - Passive attitude : “we would like to know but we prefer to make no effort” or “we would like to be informed but we are afraid to be afraid”

3 - First trends about nuclear risk perception

Nuclear risk perception

- Events people dread most are those which
  - Affect themselves or their relatives / family
  - Occur suddenly
  - Have dramatic consequences
  - Are difficult to prevent or to manage
- Spontaneous answers about the most dreaded events
  1. Car accidents / diseases
  2. Pollution
  3. Some “evolutions” of society : unemployment, wars, attacks
  4. Natural catastrophes
  5. Industrial catastrophes, among them nuclear accidents

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3 - First trends about nuclear risk perception

Nuclear risk perception

- Nuclear risk is not in the first rank of most dreaded events
  - especially in the medical field where benefits justify being exposed to “good” radioactivity
- People questioned about the word “nuclear” don’t spontaneously mention natural radioactivity
  - radioactivity is considered as resulting mainly from human activity

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3 - First trends about nuclear risk perception

Nuclear risk perception

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- Independence in energy production
- Helps to support local economy near facilities
- High safety level
- Limitation of pollution
- Nuclear workers are the more confident

\-

- The words “nuclear” and “radioactivity” are associated with threat, Hiroshima, death…
- Management and consequences of the Chernobyl accident
- Fear of a nuclear accident and its consequences (death, burns, genetic damages…) and generally speaking of any industrial accident
- Ageing of facilities and waste management are the main issues (not spontaneously mentioned)

3 - First trends about nuclear risk perception

Nuclear risk perception

- Nuclear workers :
  - Familiar and supervised risk
  - Are confident in safety level and in procedures
  - Worried about possible changes in EDF's organization and structure connected with liberalization

3 - First trends about nuclear risk perception

Nuclear risk perception

- The meaning "radiation protection" is :
  - Unknown by the general public
  - Familiar to nuclear workers
    - ✓ risks are known
    - ✓ specific actions are implemented : training, medical examinations…
  - Not well known by the opinion relays
    - ✓ have the feeling there is no strategy
    - ✓ do not really know which kind of people are involved (firemen…)

4 - First trends about ASN perception

The missions and the values of ASN

- The duties of ASN
  - Regulation
  - Authorization
  - Supervision
  - Management of emergencies
  - Information
- The values of ASN
  - Independence
  - Competence
  - Stringency
  - Transparency

4 - First trends about ASN perception

Spontaneous perception of ASN

- Perception of the State and its actions in the field of nuclear activities shows a limited confidence
  - The State is involved itself in the definition of the French energy policy
  - Management of the Chernobyl accident in terms of public information

4 - First trends about ASN perception

Spontaneous perception of ASN

- ASN is known by nuclear workers and opinion relays
  - ASN as “Institution” is known
  - ASN organization is less known

  in the case of nuclear workers
  - ✓ ASN is better known by managers than workers
  - ✓ ASN is considered as a stringent Authority to which they have to report
  - ✓ ASN is sometimes considered as being too far from industrial realities

4 - First trends about ASN perception

Spontaneous perception of ASN

- ASN is beginning to be better known by the healthcare professionals
- ASN is not known by the general public
  - Institution is not known
  - The duties of ASN are not known but spontaneous perception of ASN is rather positive
    - ✓ protection
    - ✓ efficiency
    - ✓ expertise
    - ✓ competence

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4 - First trends about ASN perception

Perception of ASN after discussion

- After having presented the ASN brochure

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- An official "Institution"
  - credibility
  - real power
  - regulation
- Reassuring "Institution"
  - supervision

-

- Ambiguous status
  - real independence ?
  - organization and means ?

Real interest in ASN which should be better known according to interviewers

4 - First trends about ASN perception

Perception of ASN after discussion

- The duties of ASN
  - On the whole positive perception of the main duties of the ASN even if the opinion relays group has doubts about their compatibility
  - Regulation
    - ✓ some difficulties to understand what it means
    - ✓ "how to regulate when not being an expert ?"
  - Supervision
    - ✓ the key duty
    - ✓ real decision power

…/…

4 - First trends about ASN perception

Perception of ASN after discussion

- The duties of ASN
  - Information
    - ✓ feeling not to be informed
    - ✓ "how can we be informed when ASN is unknown to us ?"

4 - First trends about ASN perception

Perception of ASN after discussion

- The values of ASN
  - Independence
    - ✓ weak credibility
    - ✓ for the general public : difficult to be independent when being an official "Institution"
    - ✓ for the nuclear workers : some doubts due to supposed existence of a "nuclear lobby"
    - ✓ for the opinion relays : ASN cannot be independent of politicians

…/…

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4 - First trends about ASN perception

Perception of ASN after discussion

- The values of ASN
  - Competence / stringency
    - ✓ fully recognized
  - Transparency
    - ✓ for the general public : difficult to be transparent without getting people into a panic
    - ✓ for the opinion relays : importance given to this duty and ASN is transparent

5 - Perspective

On the basis of this first stage giving ASN general trends

- ASN is not known except by nuclear professionals and by the opinion relays
- After discussion ASN perception is rather positive but raises some questions
- ASN should
  - be more present for the general public
  - make better known what it does

.../...

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5 - Perspective

On the basis of this first stage giving ASN general trends

- The general public and the opinion relays
  - would like to see more practical and tangible actions by themselves
  - would appreciate ASN being more involved in daily life (school, local press, on the TV…)
- ASN is currently thinking about the next stages including a
  - a quantitative study
  - complementary studies (healthcare field, ASN publications…)

REPUTATION AMONG THE PUBLIC: IT CAN BE MEASURED

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Radiation and nuclear regulators, as with many other public organisations, are assessed daily by various stakeholders, such as the general public. Some of these assessments are based on very little actual contact, some on frequent co-operation. Whatever the experience, the public tends to have opinions about nuclear regulators. These collective opinions among the public and other stakeholders make up a reputation. Measuring reputation today is especially important, as members of the public have access to all information and are empowered to act through various real time media. Issues, opinions and alternate points of view move quickly through public perception. The speed at which the media picks up on current incidents is also a challenge for the nuclear regulators' reputation. This ever-changing environment requires the organisation to remain constantly awake and alert. Changes in the environment could lead to serious threats to the reputation and trust of the nuclear regulator. This calls for repeatedly measuring reputation and environmental scanning. The repeated measuring of reputation provides an organisation enough time to seize upon rising issues and plan actions.

The authorities' ability to communicate and trust in what is said is an important part of functional democracy and social capital. Reputation and trust can either ease or hinder the operations of the regulator and are thus important assets to measure, monitor and develop. Yet before any development can begin, the concepts must be understood. As Jeffries-Fox writes: You can't manage what you don't measure [1], and moreover: You can't measure what you don't understand. Where an organisation cannot directly influence the image that is formed in the public's minds, it can aim to influence the stories told about it, and thus contribute to its reputation [2].

The 2002 Finnish publication "Recommendation by the Prime Minister's Office on the Principles and Procedure of Central Government Communication" [3] states that the Finnish State Administration is to promote an open administrative culture and encourage the development of governmental communication. The same seems to hold true according to reputation scholars: Fombrun & Van Riel [4] claim that the best-regarded companies value dialogue with stakeholders. In fact, the results of the Corporate Reputation Watch 2002 suggested that the most influential factor in safeguarding corporate reputation is the organisation's ability to communicate. Government officials and administrators can regard themselves as open in their communication and well developed in communication skills, but the public has the final say.

A good reputation is a vulnerable concept, difficult to gain and easy to lose. On the other hand, some aspects of reputation seem adhesive – often the unwanted qualities gained over long periods of time are difficult to shake off. One example is the image of bureaucracy stamped on public organisations. Organisational reputation is formed in the minds and conversations of various stakeholders. This raises the inevitable question: How can something existing in a million minds be

measured [5]? And if reputation is vulnerable and subject to change, how can the changes be monitored? Let us first examine the concept of reputation.

1. Reputation: what is it?

The reputation of an organisation is the topmost collective assessment of the organisation by its stakeholders [6]. An organisation can have several different stakeholder groups with different assessments and consequently several different reputations [7], but the reputation is an entity of those various reputations. Reputation can be seen as an umbrella concept comprising of other concepts and terms such as identity, image and trust. Reputation originates from identity, the core being of an organisation that separates it from others. Reputation is partly built on organisational identity and partly on the management's ability to communicate and affirm the environment of this identity. In the long-term, an organisation aims to create a favourable operation condition around it – a reputation that ensures its environment, that it is credible, trustworthy and responsible. The achieved good reputation also shields the organisation from different risks, as stakeholders are likely to believe their own experiences over hearsay or evil media reports.

Reputation exists among people, in communities, groups and organisations. Reputation is the sum of the members' beliefs about an organisation. Reputations, as all social representations, have an evolutionary history that is reflected in the current state. Reputation, more than image, is connected with actions, which makes reputation a more comprehensive concept than image [7]. Reputation is not as visual as image, and thus it is harder to change and shape. Reputation is earned through what the organisation is and how it presents itself. Reputational capital can be defined as a value consisting of trust, positive image and commitment. A good reputation has been linked to greater customer commitment and loyalty and general trust [6].

Each industry has its own reputation along with cultural variation. This reputation is often formed on little actual knowledge, yet people tend to defend their opinions with great zeal. The industrial reputation for nuclear safety has several difficulties to overcome: insufficient knowledge, the bureaucratic nature of its public administration and fear on the unknown, to mention a few. Trust is a very central issue in the reputation of nuclear regulators. Since reputation is a perception, and thus cannot be directly managed by anyone, trust helps create a good feeling about the organisation. Reputation deals with speaking and listening, mentioning and believing. It is a testimony of the organisation, a sum of the stories told. It has been argued that a reputation, unlike an image, cannot be built on advertising or campaigning, but it is rather formed out of trust and the values that the organisation, through its actions, makes reality [8]. This definition is very useful for nuclear regulators and in line with the 2002 central government communication guide (Recommendation by the Prime Minister's Office on the Principles and Procedure of Central Government Communication) as it emphasizes that a reputation should derive from its activities instead of image advertising.

The reputation of state administration follows from its activities. There can be no justification for constructing images unrelated to the actual work of government, and, for example, image advertising is not an appropriate form of activity in communicating the work of state administration. Communication should not be about shaping positive public attitudes to the work of the authorities; it should aim at increasing openness and transparency [3].

Reputation is considered a suitable term to describe the net of impressions and testimonies among the public, as it originates from actions instead of created images. A good reputation creates a favourable operational environment, but it demands continuous maintenance and proof in daily good practices. An excellent reputation delivers a promise: this is how the organisation will also behave in the future [6]. There is a slight problem with this reputation promise in public organisations: should

legislation change or funding be altered, the actions may change and affect the reputation. This in some circumstances could harm the reputation of a predictable, trustworthy nuclear regulator and it requires the authorities to remain somewhat aloof in all their operations and reputation in the same way that trust should be kept on a reasonable and thus manageable level [9].

2. Measuring reputation

Reputation may change over time, and different publics may have very different opinions of the measured organisation. Reputation is at best measured over time, periodically, since small changes or issues are easier to detect that way. Measuring reputation is most fruitful if repeated every few years or after major changes have taken place. When measuring reputation, it is important to define whether the respondent has had actual contact with the regulator or whether the opinions presented are based on word of mouth or media coverage. Knowing this helps to plan future communication and the understanding of the ways a reputation is formed.

In order to measure reputation, the concept must be operationalised somehow. It is very important to note that the measuring instruments should be consistent with the actual aims of the organisation. Prior reputation measurement, the goals and the strategic direction of the organisation need to be understood [10]. This is often achieved through interviews with the key people in the organisation: before measuring the stakeholders, measure the organisation. This enables comparison of what the organisation wishes to be and what its stakeholders consider it to be – the desired reputation and the actual reputation.

As mentioned earlier, the general public has very inconsistent opinions concerning the nuclear regulator. Where experience and direct contact is possible (for example, a friend working in the field, having visited a nuclear power plant with massive security or having studied nuclear physics etc.), less influence is put on the messages received through the media. Where actual contact or personal experience is lacking, other substitutive means are used to form an opinion: the vacuum of knowledge is always filled with something. These means are, in the case of the general public, often other people and the media. Opinions are subject to change, should personal contact be available, but remain quite stable without it. Word of mouth, though difficult to measure, could be measured through influentials analysis or network analysis, placing central people and mapping their opinions.

One way to understand reputation is to see it as attitudes [11]. Attitudes can be understood as evaluative, cognitive judgements and mindsets. Thus measuring reputation would be measuring attitudes. Attitudes can be measured through various methods such as value chain analysis or interviews. Another way is to break reputation into factors [4], and to operationalise those factors into simple questions. Both ways have been used by reputation scholars and have their strengths and weaknesses. Suitable ways to measure reputation also depend on the public.

Since reputation is an entity, its measurement requires an understanding of the whole environment and related research. Customer and stakeholder satisfaction research is very closely connected to reputation research. It could be said that measuring stakeholder satisfaction measures reputation. Fombrun [6] enlightens this by explaining that reputation is actually a web of impressions that presents the organisations ability to meet stakeholder expectations. Whether stakeholder expectations are just and fair depends on the organisations' ability to communicate its values and objectives. Those organisations aiming at a good reputation have to, according to Fombrun, develop programmes that monitor stakeholder satisfaction. A good reputation consists of the organisations ability to manage impressions, build strong relations with key stakeholders and indirect rumblings amongst the people influencing the organisation. One way to measure reputation is to measure stakeholder satisfaction.

Should reputation be measured as attitudes, open-ended questions measure reputations best [7, 11]. The often-used question still works: In a sentence or a few words, please tell me what first comes to mind when you think of organisation X. This measures attitude best as it does not enter any pre set attributes or words into the respondents thinking but allows the respondent to freely express impressions. To go deeper, the interviewer should follow the value chain analysis and ask further why-questions. The answers could be coded into various categories for comparison: positive attributes, negative attributes, descriptive attributes, good behaviour, bad behaviour [10]. A study by Grunig & Hon [11] reports on relationships and reputation and mentions that the most influential factor for relationships is the prior behaviour of an organisation. Reputation as well is formed on prior behaviour, so it can be understood that measuring organisational behaviour measures reputation.

The media is perhaps the greatest influencer of an organisation's reputation among the public. Only a few members of the general public can be presumed to have had actual contact with the nuclear regulator, and thus they depend to a great extent on the media. Reporters and journalists are a very important stakeholder group for reputation measurement as their opinions are bound to shine through in the articles they write. There are several possibilities to measure reputation in the media: the number of stories, the number of media, editorial tone, the strategic positioning or key issues mentioned, to name a few. With content analysis, these may provide useful results and also serve as a function of issues management. But the most influential way to measure the media is to monitor a journalist's opinions and needs.

Whatever the method of measurement, reputation remains difficult to manage and control. The ever-changing nature of reputation requires constant attention and monitoring. Even with all attention and research, surprises may occur. In the unpredictable world not much can be done to control the future. In the meantime, the old wisdom of PR holds true for reputation management and the measurement of nuclear regulators – Tue Gutes und Rede Darüber. (Do good and talk about it.)

3. Case study: The Reputation of STUK (Radiation and Nuclear Safety Authority, Finland)

To provide an example of measuring reputation, this section reports on the findings of a case study into the reputation of STUK among frequent stakeholders. Frequent stakeholders were chosen because the idea was to create a reputation barometer that could be repeated every few years to track progress. The reputation of STUK has been monitored twice within the last 3 years. In 2001, the reputation was measured through a longer process of director interviews and questionnaire testing, whereas in 2003 the measuring process was carried out on a smaller scale as a part of a bigger pilot study for the Ministry of Social Affairs and Health. Both monitorings yielded similar results and were in fact quite applicable for future development. This paper concentrates on the earlier study, as it was a more thorough research process tailored to serve STUK's purposes. The study was conducted in 3 parts: STUK director-level interviews, a pilot study among STUK's employees to test the questionnaire and the actual stakeholder reputation questionnaire. The main interest of this section is the stakeholder questionnaire and its results and applications, so the interviews and pilot study are presented only briefly.

In the first part of the study, data was collected from thematic interviews of five STUK directors. Based on those interviews some general reputational goals were discovered, and the reputation barometer formed. In the second part, the formed reputation barometer was tested on a pilot group: 20 members of STUK personnel and a smaller "hit group" (they commented on the questionnaire while filling it out) consisting of 5 employees from different departments of STUK. The questionnaire was amended according to the suggestions from the pilot study. The third part was the stakeholder questionnaire that was sent to 500 continuous stakeholder groups – that is, to those who are engaged or deal with the organisation frequently. Those groups were 1. Ministries, 2. Power

companies, 3. The users of radiation in medicine, 4. The users of radiation in industry and 5. collaboration organisations. The data from the pilot study was added to the research data to enable comparison because there were not very grand changes to the questionnaire after the pilot study.

Reputation was measured both as attitudes and as different factors, and the questionnaire was structured to measure both. The reputation questionnaire was on a double-sided paper that mostly consisted of adjective pairs separated with the numbers 1-5, where the positive adjective was at one end (5) and the negative adjective in the other (1). This was chosen to provide the respondent with a clear picture of the opposite terms. The reputation barometer can be seen in Appendix 1. Instructions were given in advance that the questionnaire should measure subjective opinions and it was explained that there were no right or wrong answers. Based on the interviews and organisational material as well as other prominent reputation barometers, the questions in the questionnaire were formed in the following way (Table 1):

Table 1. The questions in the stakeholder reputation questionnaire (Appendix 1).

Question	Based on	Examples from the finished questionnaire
Number 1	the initial image and first impressions Measures best reputation as attitudes.	Please state in a few words or adjectives what first crosses your mind when you think about Radiation and Nuclear Safety Authority (STUK).
Numbers 2-12	The organisational vision and values stated in the Quality Manual of STUK	STUK is esteemed – is not esteemed STUK is a specialist of its field – is not a specialist STUK is honest – is dishonest
Numbers 13-24	The practical customer service situations, earlier feedback and noted problem areas	STUK is flexible – is not flexible STUK is easy to reach – not easy to reach STUK is extroverted – introverted
Numbers 25-38	Other reputation barometers and reputation attributes	STUK has high quality – has poor quality STUK is impartial – is partial STUK is alert – is asleep
Number 39	Overall estimate	What school grade would you give to STUK's operations? (scale 4-10)
Number 40	Stakeholder needs and expectations	What are your most important needs and expectations from STUK's operations?
Numbers 41-45	Background information	Age, gender, position, area and how frequently has contact with STUK

Factor analysis was chosen to find the factors that determine the formation of reputation in the respondent's mind and to compare whether the reputation contents found matched the contents of a profit organisation's reputation barometer. Variance analysis was used to determine whether the different stakeholder groups held different reputations of STUK. The reliability and validity of the barometer were also tested and found satisfactory. All the respondents were familiar with STUK and its functions as they were all frequent stakeholders of STUK. This needs to be noted as the results only speak for the opinions of known stakeholders and not the public at whole.

The questions of interest were those concerning reputation composition and formation. Before measuring the actual stakeholder opinions, it was important to understand the ideal target reputation the organisation wished it would have, so STUK's directors were interviewed. The five in-depth thematic interviews showed that professionalism at STUK was highly valued but flexibility was not valued as much. The assumption was presented that different stakeholders could differ greatly in their opinions of STUK because of the different functions and relationships STUK had with them. The directors explained that STUK was favoured for the expert help it provided to the stakeholders. On the other hand, some obligatory safety measures and fees that STUK has the power to demand are expensive and had led to groans. The directors assumed that the stakeholders in STUK would give them a school grade of 8.5 out of 10. The term 'professional' was used excessively in all the interviews as were the terms 'safety', 'regulation', 'international', 'openness' and 'co-operation'. The top management noted problems around the terms of 'price', 'bureaucracy' and 'efficiency'. The

management interviews gave a foundation of to what to expect from the stakeholder questionnaire and helped form the target reputation.

3.1 Grades and numbers

The return rate of the reputation questionnaires was 60%, which is surprisingly good for reputation questionnaires. The overall estimate according to the stakeholders was that STUK seemed to have a fairy good reputation. Just as in the top management interviews, STUK was best appreciated as a professional and trusted, but least appreciated as a regulator due to its inflexible procedures. The average school grade given to STUK on a scale of 5-10 was 8+, which was good and quite near the estimate of top management. On a scale of 1-5, where 1 was the negative adjective and 5 the positive, the average value given in the questionnaire to STUK's abilities was 3.8. STUK was viewed most positively by the Ministries and least positively by the power companies, though all groups were quite positive in general. According to the stakeholders, STUK needs to reduce bureaucracy, check its pricing and open up its processes. On the other hand, STUK needs to keep up the good reputation it has among its stakeholders. The open questions also provided practical suggestions to better STUK's work and were quite practical in nature. Most of the open questions were neutral attributes, though some positive and negative attributes were also given.

The target reputation appeared to be very similar to the actual reputation among the chosen stakeholder groups. Based on the results, some interesting questions were formed: Was there some pattern to the adjectives and traits measured here? Factor analysis was used to search for this pattern. In the first round of the factor analysis, the first emerging factor out-powered all the other factors. This powerful factor collected attributes closely connected with trust. The analysis was run a second time, this time excluding the adjectives collected in the first dominant trust factor. The second analysis was able to acceptably list four factors. Altogether, five factors were found that the researcher named according to their contents: Trusted, Professional, Active, Customer Server and Regulator. The following attributes collected into the factors:

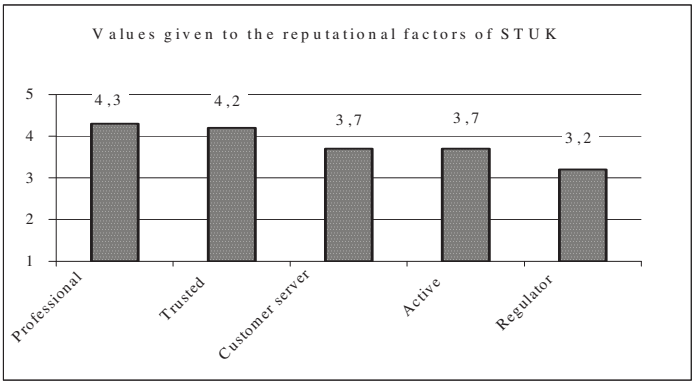
Table 2. The reputational factors of STUK found through factor analysis.

TRUSTED
dishonest – honest
unreliable – reliable
unethical actions – ethical actions
partial – impartial
arouses negative images – arouses positive images
Poor quality practices – high quality practises
CUSTOMER SERVER
inconsistent – consistent
not reachable- reachable
does not track customer needs – tracks customer needs
does not respond to customer needs – responds to customer needs
assigns confusing instructions – assigns clear instructions
unfriendly service – friendly service
does not provide help when needed – provides help when needed
does not state clearly whom to contact - states clearly whom to contact
does not communicate clearly its objectives – communicates clearly its objectives
unapproachable – approachable
cannot keep the schedule – keeps the schedule
ACTIVE
not known – known
passive – active
good work culture – bad work culture

not internationally oriented – internationally oriented
introvert – extrovert
unwanted employer – a wanted employer
prejudiced – unprejudiced
a declined state organisation – a progressive state organisation
asleep – alert
communicates passively about its actions – communicates actively about its actions
does not develop itself – develops itself
inefficient – efficient
PROFESSIONAL
not esteemed – esteemed
not an expert of the field – expert of the field
not a trend setter in radiation safety – a trendsetter in radiation safety
insignificant research – significant research
does not improve safety – improves safety
REGULATOR
inflexible practices – flexible practices
cautious – courageous
bureaucratic – adaptable

The factors give insight into which characteristics are linked together when a reputation is formed in the mind of the perceiver. The factors represent different facets when the whole reputation is being assessed. This kind of factoring helps to monitor reputation over long periods of time. The values of the factors may change over time and the change in reputation can be traced to concrete statements. The ratings the measured stakeholders gave STUK on the different reputational factors are presented in Picture 3. The scale was 1-5, where 1 represented the negative attribute and 5 the positive. Picture 3 shows that STUK is best appreciated as a professional and greatly trusted. Some improvement remains in the regulatory functions, mainly in its flexibility.

Picture 3. The reputational factors presented with the averages of the values received in the stakeholder questionnaire.



Though the overall grades and values given to STUK were quite good, some interesting differences existed. The variance analysis provided some interesting findings: those stakeholders most dependent on STUK viewed STUK's professionalism less positively than others. In addition, the organisations that deal with STUK most often seem overall to be less satisfied with its actions. But is this unwanted? It was suggested that the trust and reputation levels should not be skimming the top in the case of a public organisation such as the nuclear regulator. The reputation and trust level should be

good, but not too good for critical distance. Public organisations need this critical distance to remain effective as servants of the citizens and to give its stakeholders enough room to rate it carefully. Considering this, STUK should be quite satisfied with its current reputation.

When an authority that usually requires permits and reports asks its stakeholders for opinions, it should be noted that there could be a certain obligatory sound to it. The 60% return on the stakeholder questionnaires was surprising, as was the overall positive sound of the answers. Were the stakeholders afraid to answer negatively? Was the questionnaire seen as an obligatory part of the regulatory function? Though these questions might never be answered, it was unlikely the case as some critical answers were also received. The relatively high return rate can also be taken here as a sign of rising stakeholder interest in the affairs of the public organisation and should encourage further research.

These were some results of the case study into the reputation of STUK in 2001 and since then a second study was conducted in 2003. The results of the second study yielded quite similar results and it can be concluded that the reputation of STUK is at present quite stable among these measured stakeholders. Even the decision to build a 5th nuclear power plant has not affected the reputation of STUK. Such stability is quite rare in today's ever changing world, yet it is very recommendable for public authorities. Such stability in reputation builds trust over long periods of time. This case study measured reputation among stakeholders but similar studies, with some amendments, could be carried out among the general public.

4. Conclusion

The conclusion of this paper could be summed up in the following sentences:

- You can't manage what you don't measure, and reputation is no different.
- Before measuring the stakeholders, measure the organisation to map the target reputation.
- The methods depend on the target, but generally open-end questions measure reputation best.
- Reputation reflects on everything; thus measuring organisational behaviour and stakeholder satisfaction measures reputation.
- Tue Gutes und Rede Darüber: reputation is born of good deeds and open communication.

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Appendix 1

1. Please state with a few words or adjectives what first comes to your mind about STUK.

Next, I would like to ask you to assess STUK through various statements. Please consider each statement as to how well it describes STUK. Circle the number that best describes your ***opinion****. This questionnaire is double sided.*

2. is not esteemed	1	2	3	4	5	is esteemed
3. is not an expert in its field	1	2	3	4	5	is an expert of its field
4. has stiff operations	1	2	3	4	5	has fluent operations
5. is dishonest	1	2	3	4	5	is honest
6. is cautious	1	2	3	4	5	is courageous
7. is not well-known	1	2	3	4	5	is well-known
8. lags behind in its field	1	2	3	4	5	is a trend-setter in its field
9. is untrustworthy	1	2	3	4	5	is trustworthy
10. is passive	1	2	3	4	5	is active
11. has poor work culture	1	2	3	4	5	has good work culture
12. is not internationally oriented	1	2	3	4	5	is internationally oriented
13. is flexible	1	2	3	4	5	is bureaucratic
14. is consistent	1	2	3	4	5	is inconsistent
15. is extroverted	1	2	3	4	5	is introverted
16. is easy to reach	1	2	3	4	5	is difficult to reach
17. finds out customer needs	1	2	3	4	5	does not find out customer needs
18. responds to customer needs	1	2	3	4	5	does not respond to customer needs
19. gives clear guidelines	1	2	3	4	5	gives unclear guidelines
20. has friendly service	1	2	3	4	5	has unfriendly service
21. provides assistance, if needed	1	2	3	4	5	does not provide assistance if needed
22. clarifies the contact persons	1	2	3	4	5	does not clarify the contact persons
23. clearly communicates its aims	1	2	3	4	5	unclearly communicates its aims
24. keeps the agreed schedule	1	2	3	4	5	does not keep the agreed schedule
25. provokes a negative image	1	2	3	4	5	provokes a positive image
26. has poor quality in operations	1	2	3	4	5	has high quality in operations
27. is unethical	1	2	3	4	5	is ethical
28. is partial	1	2	3	4	5	is neutral
29. is not an eligible employer	1	2	3	4	5	is an eligible employer
30. is involved in meaningless research	1	2	3	4	5	is involved in meaningful research
31. Does not promote safety	1	2	3	4	5	promotes safety
32. is prejudice	1	2	3	4	5	is open-minded
33. is a declined governmental organisation	1	2	3	4	5	is a progressive governmental organisation
34. asleep	1	2	3	4	5	alert
35. a passive communicator	1	2	3	4	5	an active communicator
36. not under constant development	1	2	3	4	5	under constant development
37. is not approachable	1	2	3	4	5	is approachable
38. inefficient	1	2	3	4	5	efficient

Please turn!

39. What school grade would you give to STUK's operations? (scale 4-10) _____

40. What are your most important needs/expectations with regard to STUK?

Please circle the personal information required for the compilation of statistics (circle the corresponding number).

41. gender	male	1
	female	2
42. age	under 30 years	1
	31-50 years	2
	over 50 years	3

43. I have contact with STUK	weekly	1
	monthly	2
	annually	3
	less than annually	4

44. assignment	employee	1
	middle management	2
	top management	3
	expert	4
	entrepreneur	5
45. area, province	South Finland	1
	East Finland	2
	West Finland	3
	Oulu	4
	Lapland	5

Thank you for your valuable assistance!

(please return by 5.12.2001)

The return address: Department of Communication, University of Jyväskylä
Vilma Tarvainen, Researcher, PO Box 35 (ToB), 40014 Jyväskylä

TO HAVE CONFIDENCE IN THE MEASUREMENT OF CONFIDENCE

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All metrology presupposes an exact knowledge – at least non-problematic – of the object measured. What is confidence exactly? In any case it is not a thing. If it were an observable fact, a phenomenon, it would suffice for the different observers to agree beforehand on a measuring protocol. And this without having a care in the world about the definition of the object in itself, thus to know, for example, if the definition of the object is rigorously identical for all the observers. This intellectual process is customary in natural sciences because these disciplines study facts or objects that are reduced to the state of the things. Such as e.g. the apple that falls from the tree. Whatever our location may be, it is possible to measure its mass, its fall, its velocity, its acceleration, etc. And the question of knowing whether this apple is really perceived as an apple by every one of the observers need not be asked. Because it is indeed an apple, for everyone, in all cultures, in all languages. But confidence? Who can say he has "seen confidence"? Who can confirm "seeing confidence" falling from a tree? Who dares to claim having measured its mass, its fall, velocity or acceleration? Nobody, obviously, except a poet or someone who does not have all his mental faculties.

For a long time, economists have – the necessity stems from the industrial revolution – introduced quantitative indexes permitting to assess at a given moment the state of the market, of the Exchange, of a product or a merchandise. Confidence is one of these econometric indexes. As long as it remains inside the economic sphere, there are not too many difficulties – although the economists themselves recognise that "confidence" is a psychological index, of a subjective nature, always an impediment to the pretensions to objectivity. Nevertheless, the purely econometric notion of confidence has been assimilated into everyday use. And nowadays, there is the risk that it interferes a tiny bit too much in the domains where, in reality, it is out of place. We may certainly regard this as a simple historical episode, but also, possibly, as a kind of deceit.

Methodologically it is true: everything can be measured. Are there not opinion poll ratings? Certainly, but everybody knows, it happens that – and it is not even that strange – the opinion poll ratings are misleading and even mislead the opinion. The real question regarding the measurement of confidence as opinions, is not to know how to measure. The relevant problem is to know what one wants to measure. What is confidence? What sense does man give to that word? Is this sense the same for all human beings? Why measure confidence? What for and for whom? What in and whom in? Where? And then, finally, what is it that makes man experience the need to have confidence or not in someone, something? Who can say it? Contrary to what happens in natural sciences, these questions are crucial here. Because confidence is an idea, a notion, a concept, an ideal, a utopian dream, a moral value, a refuge, a quest, a hope, an expectation, a bet, a belief, a faith, a lived or idealised experience, a dream, a sharing, the fragile and always uncertain equilibrium of a human relationship, the long and delicate outcome of a friendship, the somewhat forced promise that we will not be disillusioned.

Moreover, confidence has its counterpart: doubtfulness. In the history of thought, that is quite something! Doubt, questioning, the critical mind, judgment, taste, the Enlightenment... Homo sapiens sapiens has this remarkable mental quality of being able to reason, think, experience, create. A still tenacious conception of man (all the better!), despite the appearances suggests that our species – we have to say subspecies – is endowed with intelligence and culture. Well then, an intelligent and cultivated man, is he not, by definition, a doubting man?

When an organisation for nuclear regulation and control inquires into the measurement of the confidence of what it calls – in a somewhat lapidary manner, actually – the public, it should not overlook the historical, sociological and political context in which it plays a part and from which it originates. In other words, if it aims at gaining the confidence of a given target culture – "a public" – it has to sweep in front of its own door first, as we say in French, i.e. sort out its own affairs before dealing with those of others. In pedantic language, this is called "reflexivity". Reflexivity, the big word has been uttered… And yes. If I would like to enter into a communication with the Other, if I would like this exchange to be a relationship of mutual confidence, then I will need – with the aim of getting to know the Other – to get to know myself. And that is not a matter of metrology! The ancient already understood this perfectly well, and even before Socrates, if we may believe Plato, popularised its basic principles.

Confidence is gained, built up, destroyed, lost. Fundamentally, one has to ask oneself what are the existential conditions of confidence. At the same time: what is it that causes the Other to have confidence in me and what is it that causes me to have confidence in the Other. In everyday life, social relations represent power relations inherent to society life: rich/poor, man/woman, employer/proletarian, parent/child, merchant/consumer, administrator/citizen, expert/layman, etc. From on my rampart of nuclear security authority, I carry, if not a real sociological weight, at least an image of this one – and this is quite enough – which weighs heavily, very heavily, on my relations with the population. At the same time, I introduce myself as an "authority" and guarantor of "security" of a universe ignored by most, the "nuclear"… No matter how authoritative an expert I might be – and am, for that matter –, it is time that I step down from my pedestal and bring myself to listen to the Other. I still have everything to learn from him, if I want to enjoy his confidence.

The opposite is also true, but much more difficult to apply. After all, one cannot reproach to 95% of the human population the fact of not being in the least interested in atom things – as long as the radiological situation remains normal, this is true. On the other hand, the organisations responsible for nuclear regulations and control have, themselves, obligations towards the population. On the part of the experts who work in these organisations, an effort in modesty is expected. It is about going towards the Other, descending to his level, listening to him, taking his preoccupations seriously. The relationship woven between the expert and the layman does not consist solely in a difference in the knowledge level, which the first one only has to expand in the second one by means of an appropriate popularization. The relationship woven between the two is, as we have seen, a social power relation, which should necessarily be recognised at first. Subsequently, once this awareness is present, the expert is able to penetrate the culture of the layman, to understand and respect it and to set up this exchange between equals, which constitutes real communication.

Experience shows us that the messages concerning radioprotection destined to the "general public" pass much more if they are accompanied by an actual awareness of the preoccupations expressed by the population. It is not by remaining comfortably within ones office, commanding or managing from a distance a quantitative poll by means of a questionnaire, that the expert will be able to form a sociologically acceptable idea of the non-expert cultures. This sociologically acceptable idea will only be obtained at the price of multiple encounters and exchanges with the target groups. Furthermore, next to the classical sociological techniques, the ethnological ones are very useful here.

I will end this article with a concrete example which those who are interested in my work may possibly already know by heart: the information of nuclear emergency countermeasures regarding the Belgian farming population. These have been elaborated during an anthropological study which has lasted for about a year and during which long and numerous interviews have taken place in farms, with the farmers, their families and their advisors (State agricultural engineers). The approach, essentially ethnographical, has enabled the experts to become familiarised with this farmers' culture which is a priori very distant from theirs. It has also enabled the farmers to become familiarised with radioprotection. Confidence was built especially because we were interested in their preoccupations and we have dared to leave our comfortable offices in order to reach them. Ultimate precision, but undoubtedly you may already have guessed, it was perfectly useless to measure the confidence of the farmers during the evaluation of our information campaign.

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UK REGULATORY STAKEHOLDER ENGAGEMENT AND COMMUNICATION STRATEGY

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AIMS

Gain the trust of stakeholders through effective communicating on the delivery of regulatory goals.

Through our commitment to the safety of the UK nuclear industry ensure that NSD is viewed as a credible regulator.

CONTINUOUS IMPROVEMENT PROGRAMME

- Aim: To strive for regulatory excellence.
- Adopted the European Foundation for Quality Management (EFQM).

HSE
Health & Safety Executive

NSD MISSION

To secure effective control of health, safety and radioactive waste management at nuclear sites for the protection of the public and workers and to further public confidence in the nuclear regulatory system by being open about what we do.

HSE
Health & Safety Executive

STRATEGIC PLAN (2003-2006)

Goal 5 : “To further public confidence in the UK nuclear regulatory system by providing information to our stakeholders, seeking their views and responding to them as appropriate.”

HSE
Health & Safety Executive

DRIVERS FOR CHANGE

- 1999 TNS Harris Consultants – level of public concern regarding nuclear related issues.
- 2001 CMG Consultants – knowledge management and stakeholder relations at the Nuclear Safety Directorate
  - increase proactivity
  - standard of service to stakeholders
  - low public profile
- 2001 EFQM
  - strategic drivers
  - customer satisfaction
- 2005 Freedom of Information

HSE
Health & Safety Executive

NSD STAKEHOLDER ENGAGEMENT PROGRAMME OUTPUTS

(1) Identification and prioritisation of stakeholders.

(2) Map and analyse current stakeholder engagement activities.

(3) Identify motivations and expectations of each stakeholder.

(4) Benchmark stakeholder engagement activities.

(5) Develop and implement stakeholder engagement strategy.

SUCCESS CRITERIA

(1) Outputs achieved to time and quality.

(2) Strategy approved by internal and external stakeholders.

(3) Positive feedback from stakeholders during implementation.

(4) Stakeholder confidence through regular feedback.

PROGRAMME STAGES

(1) Project Initiation Document

(2) Staff workshop – stakeholder expectations

(3) External consultation
- 10 stakeholder groups, 200 respondents
- NSD effectiveness, efficiency and value
- refine stakeholder expectations

PROGRAMME OUTCOMES

- Close views on stakeholder expectations.
- Different views on NSD's effectiveness, efficiency and value.
- Need improvements in style and speed of service delivery.
- Greater consistency and proportionality in regulatory interactions.
- Clearer channels for communicating concerns and accessing information.

STAKEHOLDER ENGAGEMENT AND COMMUNICATION STRATEGY

- **International Best Practice**
  - IAEA Report No. 24 “Communication Planning by the Nuclear Regulatory Body.”
  - USNRC Regulatory Guidelines “Effective Risk Communication.”
- **NSD**
  - External Communications Strategy
  - Internal Communications Strategy
  - HSE Risk communication, Guide to Regulatory Practice
- **NSD Commitments Document**
  - aims for each stakeholder
  - what to expect from NSD
  - how NSD will work

COMMITMENTS DOCUMENT EXAMPLE, THE PUBLIC

Stakeholder	Vision	Expect from NSD	HOW NSD delivers
The Public	Give confidence that industry is safe and well regulated	1. Nothing adversely affects their life. 2. Effective watchdog. 3. Open, honest, objective and transparent 4. Effective communication	1. Effectively regulate within a well-defined framework to best practice. 2. Provide effective two-way channels of communication (eg website) 3. Proactively provide information which is meaningful and understandable

THE STAKEHOLDERS

- The Public
- Non-Governmental Organisations
- Employees of the Nuclear Industry
- Other National Regulators
- Licensees
- International Organisations
- The Media
- Emergency Services
- Other Government Departments
- Wider HSE

HSE
Health & Safety Executive

THE PROCESSES

- Communications Proactive
- Event Report and Analysis
- Communications Reactive
- Emergency Planning
- Legal Activities
- Administration
- Inspection
- Other Regulatory Activities
- Assessment
- Technical Exchange and Knowledge Management
- Strategy and Policy
- Planning and Measurement
- Research
- CPD

HSE
Health & Safety Executive

NEXT STEPS

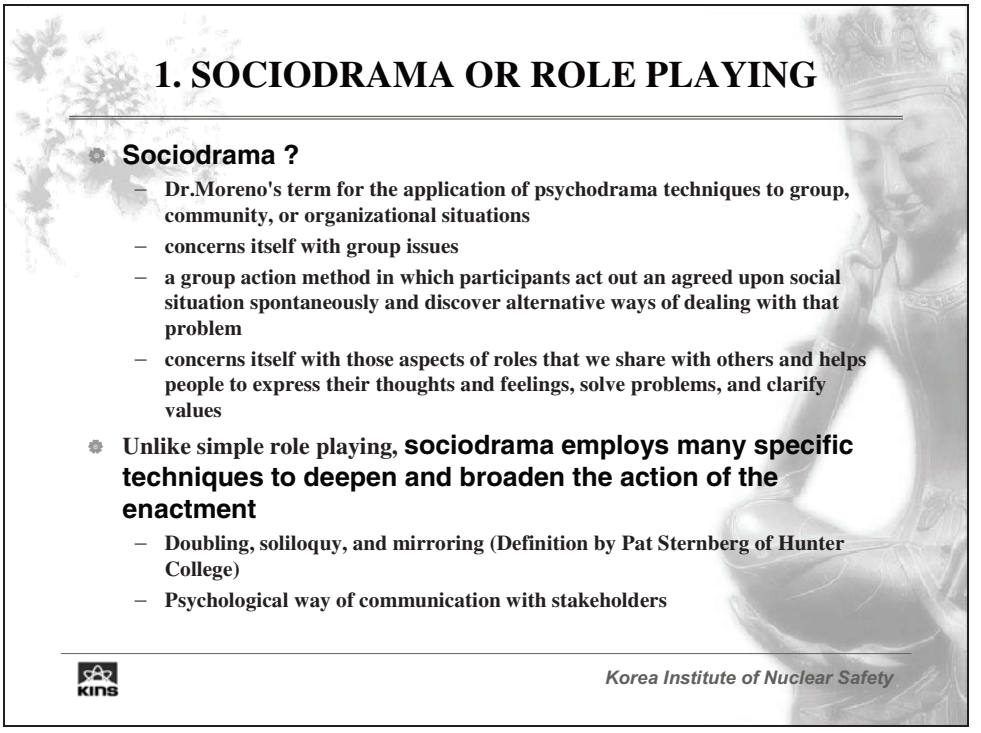
(1) Refine Commitments Document
- legality
- define what NSD commits to and how it delivers it

(2) Management ownership
(3) Publish Commitments Document
(4) Publish report in response to consultation
(5) Identify and implement a change programme
(6) Benchmark
(7) Measure performance and refine strategy

SOCIODRAMA APPROACH FOR IMPROVING PUBLIC CONFIDENCE IN KOREA

Role Playing Among Regulators, Operators and Residents at Nuclear Power Plant Sites

K. S. CHOI
Korea Institute of Nuclear Safety



2. CONFLICTS STRUCTURE AMONG STAKEHOLDERS

- **Operators**
  - Pursue economic production of electricity, rather than nuclear safety
  - Interacts with residents at sites, regulators, NGOs and always exposed to pressure for production, especially under the competitive market
  - Sometimes think that they are doing well enough for safety
  - Tend to think much of regulatory requirements not necessary and not safety relevant
  - Think that residents' concerns or fears are groundless and amplified by the campaign of NGOs
- **Regulators**
  - Regulates on behalf of the public including residents at sites
  - There might be, however, so called 'principal agent problem' and also regulatory capture by the operators may happen
  - To a certain extent, regulator shares interest with operators in the promotion of nuclear power in that they would lose jobs if nuclear power industries decline
  - In some countries, regulators reimburse regulatory fees directly from operators, which might jeopardize the regulatory independence.

3. CONFLICTS STRUCTURE AMONG STAKEHOLDERS(cont)

- **Residents at NPP Sites**
  - Experienced significant change in their life by the NPP operation
  - Political economy issues

    *their welfare decreased by the NPPs construction, operation

    *Compensation insufficient they feel
  - Concerned about the possible radiation hazards from NPPs and frustrated as the plants were not constructed in explicit agreements with them
  - There are also conflicts among residents
  - Do not have much confidence in regulators as well as operators
  - Tend to believe NGO more than regulatory body.

4. WHY SOCIODRAMA ?

- **Regulators have less opportunity to meet residents and the public**
  - **They do not know how residents feel about nuclear safety**
  - **Regulators meet them superficially**

- Through this sociodrama, **regulators and operators** may deeply experience the feeling that they have in mind as they act as residents in their shoes, especially by the role playing and role reversal.

- **The residents also understand how the regulators and operators work and feel, which may decrease their fear of radiation and improve perceived safety.**
- **It may also improve public confidence in regulator**

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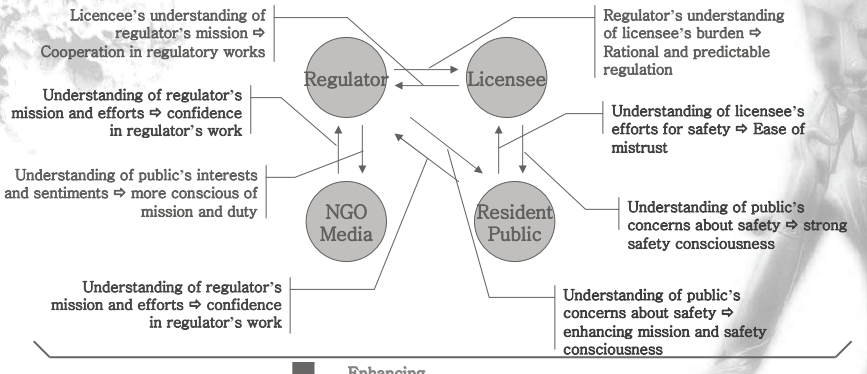
5. Expectations of Role Reversals in Sociodrama



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6. SYNOPSIS OF THE DRAMA

- **Scene #1 (August, Nov. 2003)**
  - **Regulator reads mission statement and Code of conducts of regulatory body.**
  - **At inspectors' office in NPP, inspectors discuss on the inspection finding with NPP operators and ask them to accept the official finding. They contend that the finding is not safety-related. They argue.**
  - **Two doubles of the inspector appear and argue behind him to keep going or not. After much argument, finally operator signs on the finding sheet. He is not happy.**
- **Scene #2 (August, Nov. 2003)**
  - **In a meeting room at regulatory body head office, committee members review the official inspection finding issued by the inspector and argue that the finding may not be appropriate. They think that it is better to change it to recommendation.**
  - **Inspector explains its background but it's not easy. Two doubles appears again and argue behind him to surrender and not to surrender. He experiences conflicts.**

6. SYNOPSIS OF THE DRAMA(cont)

- **Scene #3 (Aug, Nov, Dec. 2003)**
  - Regulator is briefing on the safety of plant after some incidents.
  - The residents cannot understand the technical term and do not believe that the radiation level is under limit. They complain that regulators are not kind enough in explaining about the regulatory activities and nuclear safety. They accuse regulators and operators are of the same kinds.
  - Two Doubles of the regulator appear. One argues that residents are ignorant, another tells him that regulators should be more kind.
- **Scene #4 (Dec. 2003)**
  - At a forum, regulators, operators, NGOs and media reporters debate.

7. KINS'S SOCIODRAMA PLAYED IN AUGUST 5, 2003

- **A Sociodrama with KINS staff members (August 5, 2003)**

7. KINS'S SOCIODRAMA PLAYED IN AUGUST 5, 2003

- **A Sociodrama with KINS staff members (August 5, 2003)**
- **Professional sociodrama players acted by prepared script**
  - **impromptu drama played by psychodrama director**
  - **sufficient warm-up and sharing conducted**

7. KINS'S SOCIODRAMA PLAYED IN AUGUST 5, 2003

- **A Sociodrama with KINS staff members (August 5, 2003)**

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7. KINS'S SOCIODRAMA PLAYED IN AUGUST 5, 2003

- **A Sociodrama with KINS staff members (August 5, 2003)**

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7. KINS'S SOCIODRAMA PLAYED IN AUGUST 5, 2003

- **A Sociodrama with KINS staff members (August 5, 2003)**

8. SOCIODRAMA PLAYED IN Nov. 10, 2003

A Sociodrama with IAEA Workshop Participants from 6 Asian countries, WANO and IAEA

8. SOCIODRAMA PLAYED IN Nov. 10, 2003

A Sociodrama with IAEA Workshop Participants

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8. SOCIODRAMA PLAYED IN Nov. 10, 2003

A Sociodrama with IAEA Workshop Participants

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9. KINS'S SOCIODRAMA PLAYED IN Dec. 2, 2003

A Sociodrama with KINS staff members, NGOs, residents at 4 NPP sites

(Debate scene among stakeholders)

9. KINS'S SOCIODRAMA PLAYED IN Dec. 2, 2003

A Sociodrama with KINS staff members, NGOs, residents at 4 NPP sites

Regulator screams "What shall I do ?"

9. KINS'S SOCIODRAMA PLAYED IN Dec. 2, 2003

A Sociodrama with KINS staff members, NGOs, residents at 4 NPP sites (sharing after impromptu role playing)

sharing after impromptu role playing

10. EVALUATION OF THE SOCIODRAMA

- **Misunderstanding of the objective of Sociodrama**
  - Activities for radioactive waste disposal site?
  - Promotion of public understanding of nuclear power?
- **Responses to Sociodrama**
  - Residents' Responses were negative at first
  - Improved with site visits and explanation
  - Expressed interests in their own sociodrama

10. EVALUATION OF THE SOCIODRAMA(cont)

- **Critiques to Sociodrama by KINS staff**
  - Just show up
  - No actual and visible output
  - Exaggerated KINS's weakpoints to public
  - Too early attempt
  - KINS management would not change

Residents' Responses to the Sociodrama

- Efforts for understanding residents' emotion and concerns on safety evaluated positively
- Some concerns (just simple understanding through role reversal , so what?)

11. Conclusions

- **Generally responses were very positive**
  - resident participants asked this sociodrama at NPP sites
  - IAEA Workshop participants' were very positive
- **Sufficient warm-up and sharing needed**
- **Appropriate place for drama rather than big stage is necessary**
- **Competent and experienced sociodrama director is very important (human minds are handled)**
  - diverse strategy with size of audience

11. Conclusions (cont)

- Strong participation with small group is recommended
- This could be a possibility for improving communication and solving conflicts among stakeholders and also public confidence in regulator

For public confidence , any possibility shall not be neglected

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12. Future plans

- Sociodrama with KINS-KHNP (July, 2004)
  - KINS regulatory staffs and KHNP operators from 4 sites (about 30 persons)
  - For enhancement of nuclear safety by the operators' experiences as regulator
  - For rationalization of regulation
- Sociodrama for residents at Kori site(Oct, 2004)
  - Professional actors and KINS staffs
  - Enhancement of public confidence in regulation
  - Enhancement of perceived safety

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12. Future plans (cont)

- Sociodrama with anti-nuke NGOs under consideration
- KHNP considers use of this approach to improve their communication to residents at sites
- It will be mentioned in 3rd National report on Nuclear Safety Convention

Though regulatory body speaks with the tongues of experts, and have not mission, it becomes as sounding brass, or a tinkling cymbal.

And though it has hundreds of Ph.Ds, and understands all mysteries and all knowledge about fission and radiation; and though it has all faith, so that it could remove mountains, and does not satisfy people (esp. resident people) in nuclear safety, it is nothing.

And though it gives their body to be burned, and has big nuclear accident, it profits people nothing.

REPUTATION AMONG THE PUBLIC: IT CAN BE MEASURED

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Radiation and nuclear regulators, as with many other public organisations, are assessed daily by various stakeholders, such as the general public. Some of these assessments are based on very little actual contact, some on frequent co-operation. Whatever the experience, the public tends to have opinions about nuclear regulators. These collective opinions among the public and other stakeholders make up a reputation. Measuring reputation today is especially important, as members of the public have access to all information and are empowered to act through various real time media. Issues, opinions and alternate points of view move quickly through public perception. The speed at which the media picks up on current incidents is also a challenge for the nuclear regulators' reputation. This ever-changing environment requires the organisation to remain constantly awake and alert. Changes in the environment could lead to serious threats to the reputation and trust of the nuclear regulator. This calls for repeatedly measuring reputation and environmental scanning. The repeated measuring of reputation provides an organisation enough time to seize upon rising issues and plan actions.

The authorities' ability to communicate and trust in what is said is an important part of functional democracy and social capital. Reputation and trust can either ease or hinder the operations of the regulator and are thus important assets to measure, monitor and develop. Yet before any development can begin, the concepts must be understood. As Jeffries-Fox writes: You can't manage what you don't measure [1], and moreover: You can't measure what you don't understand. Where an organisation cannot directly influence the image that is formed in the public's minds, it can aim to influence the stories told about it, and thus contribute to its reputation [2].

The 2002 Finnish publication "Recommendation by the Prime Minister's Office on the Principles and Procedure of Central Government Communication" [3] states that the Finnish State Administration is to promote an open administrative culture and encourage the development of governmental communication. The same seems to hold true according to reputation scholars: Fombrun & Van Riel [4] claim that the best-regarded companies value dialogue with stakeholders. In fact, the results of the Corporate Reputation Watch 2002 suggested that the most influential factor in safeguarding corporate reputation is the organisation's ability to communicate. Government officials and administrators can regard themselves as open in their communication and well developed in communication skills, but the public has the final say.

A good reputation is a vulnerable concept, difficult to gain and easy to lose. On the other hand, some aspects of reputation seem adhesive – often the unwanted qualities gained over long periods of time are difficult to shake off. One example is the image of bureaucracy stamped on public organisations. Organisational reputation is formed in the minds and conversations of various stakeholders. This raises the inevitable question: How can something existing in a million minds be

measured [5]? And if reputation is vulnerable and subject to change, how can the changes be monitored? Let us first examine the concept of reputation.

1. Reputation: what is it?

The reputation of an organisation is the topmost collective assessment of the organisation by its stakeholders [6]. An organisation can have several different stakeholder groups with different assessments and consequently several different reputations [7], but the reputation is an entity of those various reputations. Reputation can be seen as an umbrella concept comprising of other concepts and terms such as identity, image and trust. Reputation originates from identity, the core being of an organisation that separates it from others. Reputation is partly built on organisational identity and partly on the management's ability to communicate and affirm the environment of this identity. In the long-term, an organisation aims to create a favourable operation condition around it – a reputation that ensures its environment, that it is credible, trustworthy and responsible. The achieved good reputation also shields the organisation from different risks, as stakeholders are likely to believe their own experiences over hearsay or evil media reports.

Reputation exists among people, in communities, groups and organisations. Reputation is the sum of the members' beliefs about an organisation. Reputations, as all social representations, have an evolutionary history that is reflected in the current state. Reputation, more than image, is connected with actions, which makes reputation a more comprehensive concept than image [7]. Reputation is not as visual as image, and thus it is harder to change and shape. Reputation is earned through what the organisation is and how it presents itself. Reputational capital can be defined as a value consisting of trust, positive image and commitment. A good reputation has been linked to greater customer commitment and loyalty and general trust [6].

Each industry has its own reputation along with cultural variation. This reputation is often formed on little actual knowledge, yet people tend to defend their opinions with great zeal. The industrial reputation for nuclear safety has several difficulties to overcome: insufficient knowledge, the bureaucratic nature of its public administration and fear on the unknown, to mention a few. Trust is a very central issue in the reputation of nuclear regulators. Since reputation is a perception, and thus cannot be directly managed by anyone, trust helps create a good feeling about the organisation. Reputation deals with speaking and listening, mentioning and believing. It is a testimony of the organisation, a sum of the stories told. It has been argued that a reputation, unlike an image, cannot be built on advertising or campaigning, but it is rather formed out of trust and the values that the organisation, through its actions, makes reality [8]. This definition is very useful for nuclear regulators and in line with the 2002 central government communication guide (Recommendation by the Prime Minister's Office on the Principles and Procedure of Central Government Communication) as it emphasizes that a reputation should derive from its activities instead of image advertising.

The reputation of state administration follows from its activities. There can be no justification for constructing images unrelated to the actual work of government, and, for example, image advertising is not an appropriate form of activity in communicating the work of state administration. Communication should not be about shaping positive public attitudes to the work of the authorities; it should aim at increasing openness and transparency [3].

Reputation is considered a suitable term to describe the net of impressions and testimonies among the public, as it originates from actions instead of created images. A good reputation creates a favourable operational environment, but it demands continuous maintenance and proof in daily good practices. An excellent reputation delivers a promise: this is how the organisation will also behave in the future [6]. There is a slight problem with this reputation promise in public organisations: should

legislation change or funding be altered, the actions may change and affect the reputation. This in some circumstances could harm the reputation of a predictable, trustworthy nuclear regulator and it requires the authorities to remain somewhat aloof in all their operations and reputation in the same way that trust should be kept on a reasonable and thus manageable level [9].

2. Measuring reputation

Reputation may change over time, and different publics may have very different opinions of the measured organisation. Reputation is at best measured over time, periodically, since small changes or issues are easier to detect that way. Measuring reputation is most fruitful if repeated every few years or after major changes have taken place. When measuring reputation, it is important to define whether the respondent has had actual contact with the regulator or whether the opinions presented are based on word of mouth or media coverage. Knowing this helps to plan future communication and the understanding of the ways a reputation is formed.

In order to measure reputation, the concept must be operationalised somehow. It is very important to note that the measuring instruments should be consistent with the actual aims of the organisation. Prior reputation measurement, the goals and the strategic direction of the organisation need to be understood [10]. This is often achieved through interviews with the key people in the organisation: before measuring the stakeholders, measure the organisation. This enables comparison of what the organisation wishes to be and what its stakeholders consider it to be – the desired reputation and the actual reputation.

As mentioned earlier, the general public has very inconsistent opinions concerning the nuclear regulator. Where experience and direct contact is possible (for example, a friend working in the field, having visited a nuclear power plant with massive security or having studied nuclear physics etc.), less influence is put on the messages received through the media. Where actual contact or personal experience is lacking, other substitutive means are used to form an opinion: the vacuum of knowledge is always filled with something. These means are, in the case of the general public, often other people and the media. Opinions are subject to change, should personal contact be available, but remain quite stable without it. Word of mouth, though difficult to measure, could be measured through influentials analysis or network analysis, placing central people and mapping their opinions.

One way to understand reputation is to see it as attitudes [11]. Attitudes can be understood as evaluative, cognitive judgements and mindsets. Thus measuring reputation would be measuring attitudes. Attitudes can be measured through various methods such as value chain analysis or interviews. Another way is to break reputation into factors [4], and to operationalise those factors into simple questions. Both ways have been used by reputation scholars and have their strengths and weaknesses. Suitable ways to measure reputation also depend on the public.

Since reputation is an entity, its measurement requires an understanding of the whole environment and related research. Customer and stakeholder satisfaction research is very closely connected to reputation research. It could be said that measuring stakeholder satisfaction measures reputation. Fombrun [6] enlightens this by explaining that reputation is actually a web of impressions that presents the organisations ability to meet stakeholder expectations. Whether stakeholder expectations are just and fair depends on the organisations' ability to communicate its values and objectives. Those organisations aiming at a good reputation have to, according to Fombrun, develop programmes that monitor stakeholder satisfaction. A good reputation consists of the organisations ability to manage impressions, build strong relations with key stakeholders and indirect rumblings amongst the people influencing the organisation. One way to measure reputation is to measure stakeholder satisfaction.

Should reputation be measured as attitudes, open-ended questions measure reputations best [7, 11]. The often-used question still works: In a sentence or a few words, please tell me what first comes to mind when you think of organisation X. This measures attitude best as it does not enter any pre set attributes or words into the respondents thinking but allows the respondent to freely express impressions. To go deeper, the interviewer should follow the value chain analysis and ask further why-questions. The answers could be coded into various categories for comparison: positive attributes, negative attributes, descriptive attributes, good behaviour, bad behaviour [10]. A study by Grunig & Hon [11] reports on relationships and reputation and mentions that the most influential factor for relationships is the prior behaviour of an organisation. Reputation as well is formed on prior behaviour, so it can be understood that measuring organisational behaviour measures reputation.

The media is perhaps the greatest influencer of an organisation's reputation among the public. Only a few members of the general public can be presumed to have had actual contact with the nuclear regulator, and thus they depend to a great extent on the media. Reporters and journalists are a very important stakeholder group for reputation measurement as their opinions are bound to shine through in the articles they write. There are several possibilities to measure reputation in the media: the number of stories, the number of media, editorial tone, the strategic positioning or key issues mentioned, to name a few. With content analysis, these may provide useful results and also serve as a function of issues management. But the most influential way to measure the media is to monitor a journalist's opinions and needs.

Whatever the method of measurement, reputation remains difficult to manage and control. The ever-changing nature of reputation requires constant attention and monitoring. Even with all attention and research, surprises may occur. In the unpredictable world not much can be done to control the future. In the meantime, the old wisdom of PR holds true for reputation management and the measurement of nuclear regulators – Tue Gutes und Rede Darüber. (Do good and talk about it.)

3. Case study: The Reputation of STUK (Radiation and Nuclear Safety Authority, Finland)

To provide an example of measuring reputation, this section reports on the findings of a case study into the reputation of STUK among frequent stakeholders. Frequent stakeholders were chosen because the idea was to create a reputation barometer that could be repeated every few years to track progress. The reputation of STUK has been monitored twice within the last 3 years. In 2001, the reputation was measured through a longer process of director interviews and questionnaire testing, whereas in 2003 the measuring process was carried out on a smaller scale as a part of a bigger pilot study for the Ministry of Social Affairs and Health. Both monitorings yielded similar results and were in fact quite applicable for future development. This paper concentrates on the earlier study, as it was a more thorough research process tailored to serve STUK's purposes. The study was conducted in 3 parts: STUK director-level interviews, a pilot study among STUK's employees to test the questionnaire and the actual stakeholder reputation questionnaire. The main interest of this section is the stakeholder questionnaire and its results and applications, so the interviews and pilot study are presented only briefly.

In the first part of the study, data was collected from thematic interviews of five STUK directors. Based on those interviews some general reputational goals were discovered, and the reputation barometer formed. In the second part, the formed reputation barometer was tested on a pilot group: 20 members of STUK personnel and a smaller "hit group" (they commented on the questionnaire while filling it out) consisting of 5 employees from different departments of STUK. The questionnaire was amended according to the suggestions from the pilot study. The third part was the stakeholder questionnaire that was sent to 500 continuous stakeholder groups – that is, to those who are engaged or deal with the organisation frequently. Those groups were 1. Ministries, 2. Power

companies, 3. The users of radiation in medicine, 4. The users of radiation in industry and 5. collaboration organisations. The data from the pilot study was added to the research data to enable comparison because there were not very grand changes to the questionnaire after the pilot study.

Reputation was measured both as attitudes and as different factors, and the questionnaire was structured to measure both. The reputation questionnaire was on a double-sided paper that mostly consisted of adjective pairs separated with the numbers 1-5, where the positive adjective was at one end (5) and the negative adjective in the other (1). This was chosen to provide the respondent with a clear picture of the opposite terms. The reputation barometer can be seen in Appendix 1. Instructions were given in advance that the questionnaire should measure subjective opinions and it was explained that there were no right or wrong answers. Based on the interviews and organisational material as well as other prominent reputation barometers, the questions in the questionnaire were formed in the following way (Table 1):

Table 1. The questions in the stakeholder reputation questionnaire (Appendix 1).

Question	Based on	Examples from the finished questionnaire
Number 1	the initial image and first impressions Measures best reputation as attitudes.	Please state in a few words or adjectives what first crosses your mind when you think about Radiation and Nuclear Safety Authority (STUK).
Numbers 2-12	The organisational vision and values stated in the Quality Manual of STUK	STUK is esteemed – is not esteemed STUK is a specialist of its field – is not a specialist STUK is honest – is dishonest
Numbers 13-24	The practical customer service situations, earlier feedback and noted problem areas	STUK is flexible – is not flexible STUK is easy to reach – not easy to reach STUK is extroverted – introverted
Numbers 25-38	Other reputation barometers and reputation attributes	STUK has high quality – has poor quality STUK is impartial – is partial STUK is alert – is asleep
Number 39	Overall estimate	What school grade would you give to STUK's operations? (scale 4-10)
Number 40	Stakeholder needs and expectations	What are your most important needs and expectations from STUK's operations?
Numbers 41-45	Background information	Age, gender, position, area and how frequently has contact with STUK

Factor analysis was chosen to find the factors that determine the formation of reputation in the respondent's mind and to compare whether the reputation contents found matched the contents of a profit organisation's reputation barometer. Variance analysis was used to determine whether the different stakeholder groups held different reputations of STUK. The reliability and validity of the barometer were also tested and found satisfactory. All the respondents were familiar with STUK and its functions as they were all frequent stakeholders of STUK. This needs to be noted as the results only speak for the opinions of known stakeholders and not the public at whole.

The questions of interest were those concerning reputation composition and formation. Before measuring the actual stakeholder opinions, it was important to understand the ideal target reputation the organisation wished it would have, so STUK's directors were interviewed. The five in-depth thematic interviews showed that professionalism at STUK was highly valued but flexibility was not valued as much. The assumption was presented that different stakeholders could differ greatly in their opinions of STUK because of the different functions and relationships STUK had with them. The directors explained that STUK was favoured for the expert help it provided to the stakeholders. On the other hand, some obligatory safety measures and fees that STUK has the power to demand are expensive and had led to groans. The directors assumed that the stakeholders in STUK would give them a school grade of 8.5 out of 10. The term 'professional' was used excessively in all the interviews as were the terms 'safety', 'regulation', 'international', 'openness' and 'co-operation'. The top management noted problems around the terms of 'price', 'bureaucracy' and 'efficiency'. The

management interviews gave a foundation of to what to expect from the stakeholder questionnaire and helped form the target reputation.

3.1 Grades and numbers

The return rate of the reputation questionnaires was 60%, which is surprisingly good for reputation questionnaires. The overall estimate according to the stakeholders was that STUK seemed to have a fairy good reputation. Just as in the top management interviews, STUK was best appreciated as a professional and trusted, but least appreciated as a regulator due to its inflexible procedures. The average school grade given to STUK on a scale of 5-10 was 8+, which was good and quite near the estimate of top management. On a scale of 1-5, where 1 was the negative adjective and 5 the positive, the average value given in the questionnaire to STUK's abilities was 3.8. STUK was viewed most positively by the Ministries and least positively by the power companies, though all groups were quite positive in general. According to the stakeholders, STUK needs to reduce bureaucracy, check its pricing and open up its processes. On the other hand, STUK needs to keep up the good reputation it has among its stakeholders. The open questions also provided practical suggestions to better STUK's work and were quite practical in nature. Most of the open questions were neutral attributes, though some positive and negative attributes were also given.

The target reputation appeared to be very similar to the actual reputation among the chosen stakeholder groups. Based on the results, some interesting questions were formed: Was there some pattern to the adjectives and traits measured here? Factor analysis was used to search for this pattern. In the first round of the factor analysis, the first emerging factor out-powered all the other factors. This powerful factor collected attributes closely connected with trust. The analysis was run a second time, this time excluding the adjectives collected in the first dominant trust factor. The second analysis was able to acceptably list four factors. Altogether, five factors were found that the researcher named according to their contents: Trusted, Professional, Active, Customer Server and Regulator. The following attributes collected into the factors:

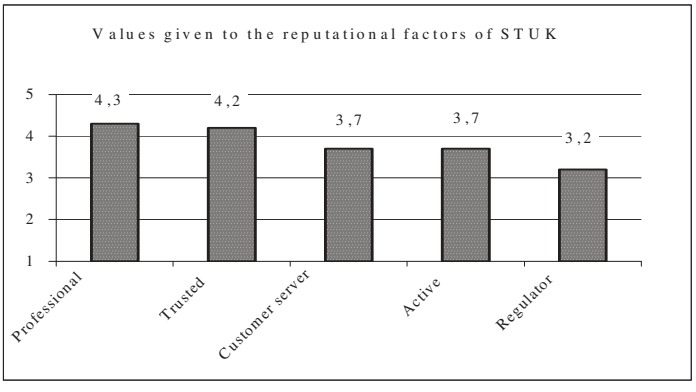
Table 2. The reputational factors of STUK found through factor analysis.

TRUSTED
dishonest – honest
unreliable – reliable
unethical actions – ethical actions
partial – impartial
arouses negative images – arouses positive images
Poor quality practices – high quality practises
CUSTOMER SERVER
inconsistent – consistent
not reachable- reachable
does not track customer needs – tracks customer needs
does not respond to customer needs – responds to customer needs
assigns confusing instructions – assigns clear instructions
unfriendly service – friendly service
does not provide help when needed – provides help when needed
does not state clearly whom to contact - states clearly whom to contact
does not communicate clearly its objectives – communicates clearly its objectives
unapproachable – approachable
cannot keep the schedule – keeps the schedule
ACTIVE
not known – known
passive – active
good work culture – bad work culture

not internationally oriented – internationally oriented
introvert – extrovert
unwanted employer – a wanted employer
prejudiced – unprejudiced
a declined state organisation – a progressive state organisation
asleep – alert
communicates passively about its actions – communicates actively about its actions
does not develop itself – develops itself
inefficient – efficient
PROFESSIONAL
not esteemed – esteemed
not an expert of the field – expert of the field
not a trend setter in radiation safety – a trendsetter in radiation safety
insignificant research – significant research
does not improve safety – improves safety
REGULATOR
inflexible practices – flexible practices
cautious – courageous
bureaucratic – adaptable

The factors give insight into which characteristics are linked together when a reputation is formed in the mind of the perceiver. The factors represent different facets when the whole reputation is being assessed. This kind of factoring helps to monitor reputation over long periods of time. The values of the factors may change over time and the change in reputation can be traced to concrete statements. The ratings the measured stakeholders gave STUK on the different reputational factors are presented in Picture 3. The scale was 1-5, where 1 represented the negative attribute and 5 the positive. Picture 3 shows that STUK is best appreciated as a professional and greatly trusted. Some improvement remains in the regulatory functions, mainly in its flexibility.

Picture 3. The reputational factors presented with the averages of the values received in the stakeholder questionnaire.



Though the overall grades and values given to STUK were quite good, some interesting differences existed. The variance analysis provided some interesting findings: those stakeholders most dependent on STUK viewed STUK's professionalism less positively than others. In addition, the organisations that deal with STUK most often seem overall to be less satisfied with its actions. But is this unwanted? It was suggested that the trust and reputation levels should not be skimming the top in the case of a public organisation such as the nuclear regulator. The reputation and trust level should be

good, but not too good for critical distance. Public organisations need this critical distance to remain effective as servants of the citizens and to give its stakeholders enough room to rate it carefully. Considering this, STUK should be quite satisfied with its current reputation.

When an authority that usually requires permits and reports asks its stakeholders for opinions, it should be noted that there could be a certain obligatory sound to it. The 60% return on the stakeholder questionnaires was surprising, as was the overall positive sound of the answers. Were the stakeholders afraid to answer negatively? Was the questionnaire seen as an obligatory part of the regulatory function? Though these questions might never be answered, it was unlikely the case as some critical answers were also received. The relatively high return rate can also be taken here as a sign of rising stakeholder interest in the affairs of the public organisation and should encourage further research.

These were some results of the case study into the reputation of STUK in 2001 and since then a second study was conducted in 2003. The results of the second study yielded quite similar results and it can be concluded that the reputation of STUK is at present quite stable among these measured stakeholders. Even the decision to build a 5th nuclear power plant has not affected the reputation of STUK. Such stability is quite rare in today's ever changing world, yet it is very recommendable for public authorities. Such stability in reputation builds trust over long periods of time. This case study measured reputation among stakeholders but similar studies, with some amendments, could be carried out among the general public.

4. Conclusion

The conclusion of this paper could be summed up in the following sentences:

- You can't manage what you don't measure, and reputation is no different.
- Before measuring the stakeholders, measure the organisation to map the target reputation.
- The methods depend on the target, but generally open-end questions measure reputation best.
- Reputation reflects on everything; thus measuring organisational behaviour and stakeholder satisfaction measures reputation.
- Tue Gutes und Rede Darüber: reputation is born of good deeds and open communication.

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Appendix 1

1. Please state with a few words or adjectives what first comes to your mind about STUK.

Next, I would like to ask you to assess STUK through various statements. Please consider each statement as to how well it describes STUK. Circle the number that best describes your ***opinion****. This questionnaire is double sided.*

2. is not esteemed	1	2	3	4	5	is esteemed
3. is not an expert in its field	1	2	3	4	5	is an expert of its field
4. has stiff operations	1	2	3	4	5	has fluent operations
5. is dishonest	1	2	3	4	5	is honest
6. is cautious	1	2	3	4	5	is courageous
7. is not well-known	1	2	3	4	5	is well-known
8. lags behind in its field	1	2	3	4	5	is a trend-setter in its field
9. is untrustworthy	1	2	3	4	5	is trustworthy
10. is passive	1	2	3	4	5	is active
11. has poor work culture	1	2	3	4	5	has good work culture
12. is not internationally oriented	1	2	3	4	5	is internationally oriented
13. is flexible	1	2	3	4	5	is bureaucratic
14. is consistent	1	2	3	4	5	is inconsistent
15. is extroverted	1	2	3	4	5	is introverted
16. is easy to reach	1	2	3	4	5	is difficult to reach
17. finds out customer needs	1	2	3	4	5	does not find out customer needs
18. responds to customer needs	1	2	3	4	5	does not respond to customer needs
19. gives clear guidelines	1	2	3	4	5	gives unclear guidelines
20. has friendly service	1	2	3	4	5	has unfriendly service
21. provides assistance, if needed	1	2	3	4	5	does not provide assistance if needed
22. clarifies the contact persons	1	2	3	4	5	does not clarify the contact persons
23. clearly communicates its aims	1	2	3	4	5	unclearly communicates its aims
24. keeps the agreed schedule	1	2	3	4	5	does not keep the agreed schedule
25. provokes a negative image	1	2	3	4	5	provokes a positive image
26. has poor quality in operations	1	2	3	4	5	has high quality in operations
27. is unethical	1	2	3	4	5	is ethical
28. is partial	1	2	3	4	5	is neutral
29. is not an eligible employer	1	2	3	4	5	is an eligible employer
30. is involved in meaningless research	1	2	3	4	5	is involved in meaningful research
31. Does not promote safety	1	2	3	4	5	promotes safety
32. is prejudice	1	2	3	4	5	is open-minded
33. is a declined governmental organisation	1	2	3	4	5	is a progressive governmental organisation
34. asleep	1	2	3	4	5	alert
35. a passive communicator	1	2	3	4	5	an active communicator
36. not under constant development	1	2	3	4	5	under constant development
37. is not approachable	1	2	3	4	5	is approachable
38. inefficient	1	2	3	4	5	efficient

Please turn!

39. What school grade would you give to STUK's operations? (scale 4-10) _____

40. What are your most important needs/expectations with regard to STUK?

Please circle the personal information required for the compilation of statistics (circle the corresponding number).

41. gender	male	1
	female	2
42. age	under 30 years	1
	31-50 years	2
	over 50 years	3

43. I have contact with STUK	weekly	1
	monthly	2
	annually	3
	less than annually	4

44. assignment	employee	1
	middle management	2
	top management	3
	expert	4
	entrepreneur	5
45. area, province	South Finland	1
	East Finland	2
	West Finland	3
	Oulu	4
	Lapland	5

Thank you for your valuable assistance!

(please return by 5.12.2001)

The return address: Department of Communication, University of Jyväskylä
Vilma Tarvainen, Researcher, PO Box 35 (ToB), 40014 Jyväskylä

SESSION 4

WHAT ARE EFFECTIVE TECHNIQUES FOR IMPROVING PUBLIC CONFIDENCE OR RESTORING LOST CONFIDENCE IN A REGULATOR?

Chair: O. Harbitz

Co-chair: R. Isaksson

SUMMARY OF SESSION 4

What are effective techniques for improving public confidence or restoring lost confidence?

The following list contains thoughts related to restoring lost confidence:

- hard, long lasting event;
- strategy: maximum transparency;
- to listen, be open, give phone numbers etc.
- ways to rebuild trust: frequent communication, being there, open and transparent;
- don't be too defensive; if things could be done better, say it;
- technical staff and public affair staff together from the beginning – answer all questions;
- classifications, actions, instructions that differ much from the earlier ones must be well explained and motivated – and still cause a lot of problems;
- things may turn out to be political;
- communicative work in an early stage saves work later;
- communication experts must be working shoulder to shoulder with other staff;

On handling emergencies in general, some recipes like:

- better to over react than to under react;
- do not avoid extreme actions: hit hard, hit fast;
- base your decisions in strict principles;
- first principle: public safety first;
- when you are realising plant A, you must have a plant B in your pocket;
- be transparent – from the beginning;
- crisis communication: early, frequent etc
- people need to see political leaders, someone who is making decisions – technical experts are needed but are not enough.

On how to involve stakeholders and the public in decision making.

- new kind of thinking – demanding for a organisation;
- go to local level, meet local people, speak language people understand, you have to start from the very beginning – introducing yourself tell who you are and why you are there.

SARS AND THE 2003 POWER OUTAGE EXAMPLE

J. Young
Commissioner of Public Safety, Ontario

Measuring and Improving Confidence in the Nuclear Regulator

James G. Young, M.D.
Commissioner of Emergency Management
Ontario, Canada

Range of Emergencies

Terrorism

Plane Crashes

Range of Emergencies

Weather

Political Instability

Nigeria
Untimely Death of a Leader,
Abiola (1937-1998)

Range of Emergencies

Health

Man Made

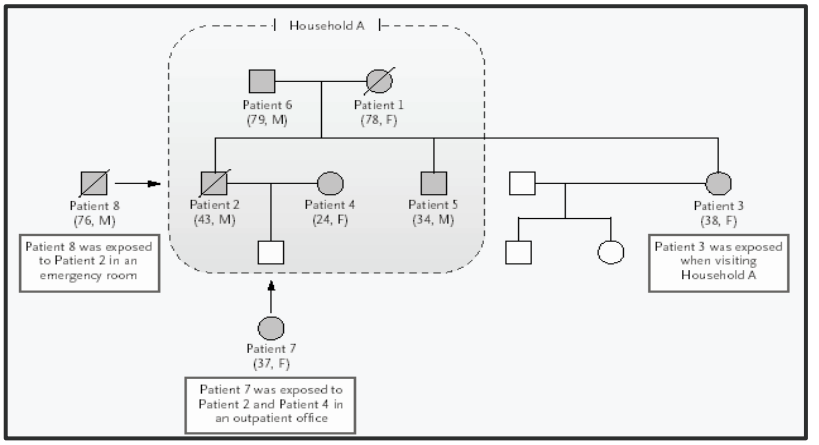
Will We Face Emergencies?

- Global warming
- Interconnectivity
- Aging infrastructure
- Terrorism
- Pandemics

Common Elements

- Need for a plan to get started
- Need to train and exercise plan
- Management by public safety and ethics
- Over react *not* under react
- Transparency
- Frequent communications

Hong Kong – The Metropole Hotel

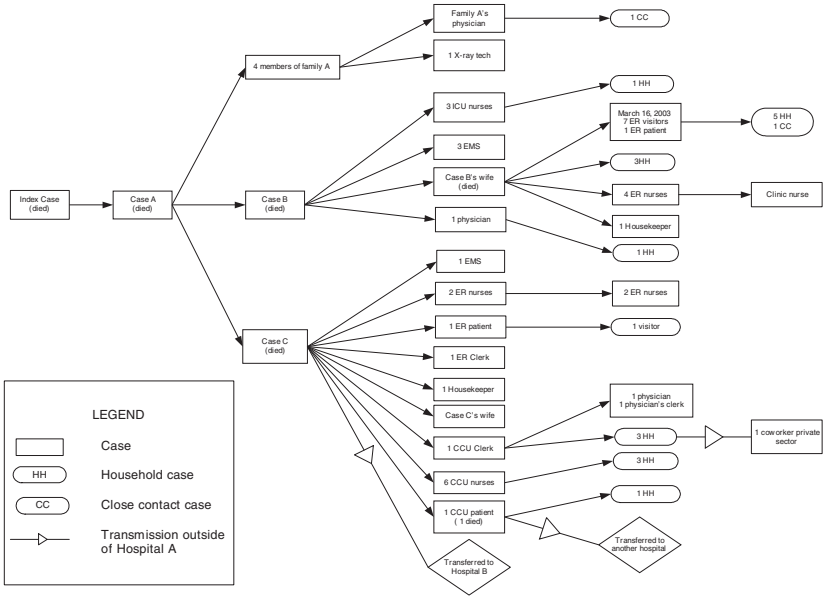


Feb 23, index case returns from Hong Kong
March 5, index case dies at home
March 7, case 2 in ER
March 13, case 2 dies; 5 family members admitted

March 12th – WHO Alert

- Atypical pneumonia
- Health workers most affected
- Unidentified cause
- Spreading in south-east Asia

Figure 3. Transmission of SARS in Hospital A (N=72)



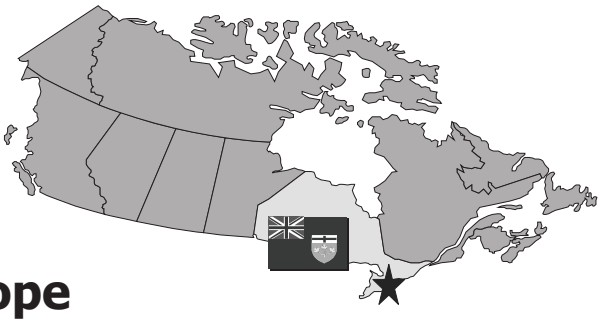
Outbreak Control

How do you stop an outbreak when:

- Agent is unknown
- Incubation period uncertain
- Mode of transmission not entirely clear
- No diagnostic test
- No prophylaxis
- No vaccine
- No treatment

R_0 = population density x infectivity x time

Why a Provincial Emergency?



- Scope
- Hidden cases
- Getting ahead of the outbreak

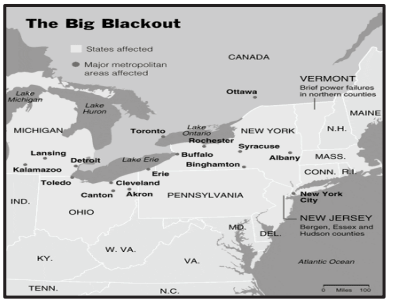
Transmission System in North America

- 200,000 miles (320,000 kilometers) of transmission line 230,000 volt or greater
- Trillion in assets
- 3,500 utilities
- 283 million people

Three Power Grids

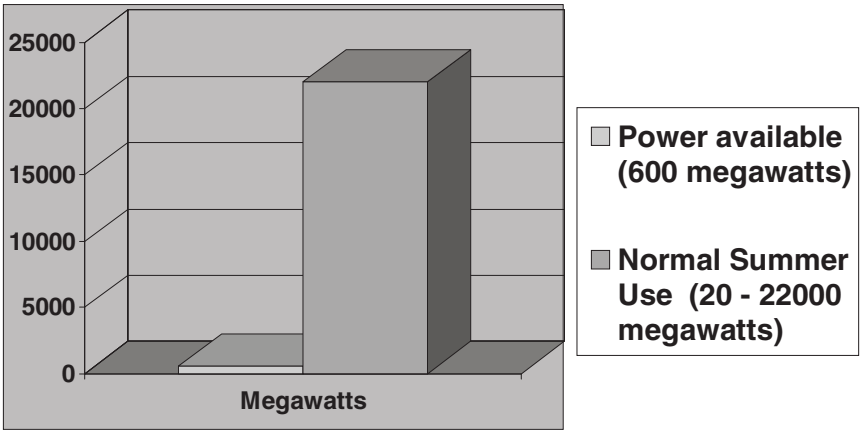
• **Eastern**	• 2/3 continental United States, Saskatchewan to Maritimes
• **Western**	• Western United States, British Columbia, Alberta, part Mexico
• **Texas**	

Blackout Facts



- August 14, 2004, 4:00 pm
- 50 million people
- 61,800 megawatts of load
- OHIO, Michigan, Pennsylvania, New York, Vermont, Massachusetts, Connecticut, New Jersey, Ontario
- Northern portion of eastern grid
- 10% of total grid

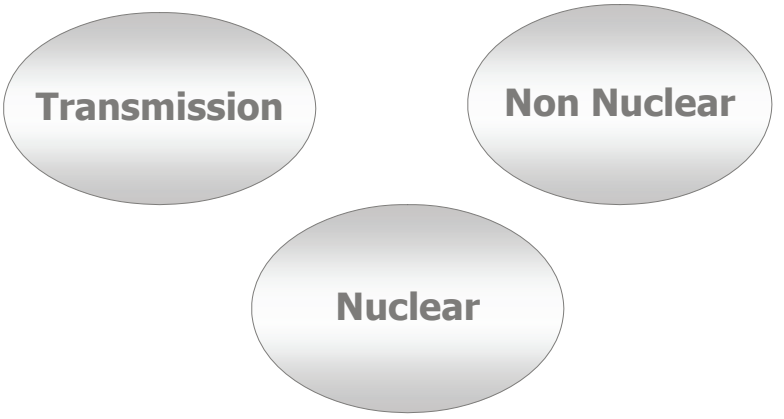
The Challenge



Initial Priorities

- **Public Safety**
  - Elevators
  - Hospitals
- **Lower Consumption**
  - Water
  - Heat
- **Restore Supply**

Restoring Power



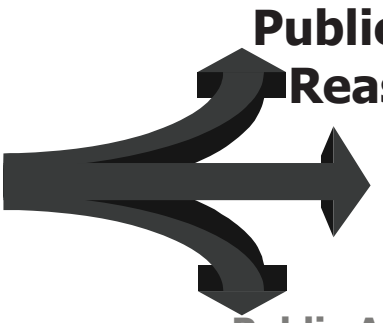
Protecting the Necessary

- Water/sewage
- Refineries
- Hospitals

Rotating Blackouts

• **Public Safety Risks**	• Elevators • Hospitals
• **Business Risks**	• Equipment • Food • Chemicals
• **Public Appearance**	

Goals of Communication



Public
Reassurance

Education for public professional

Public Action

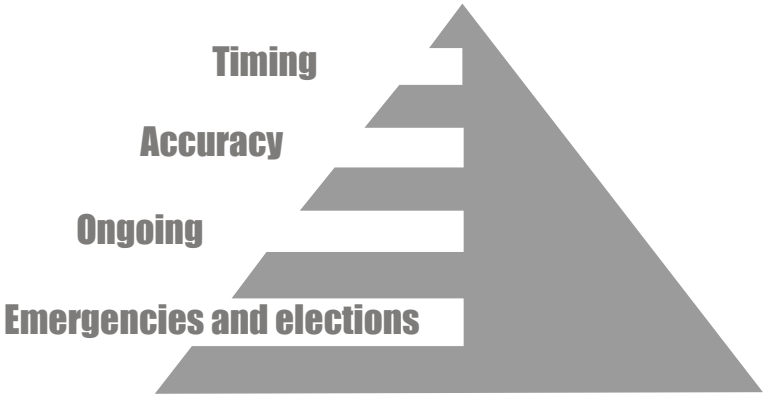
Effect of SARS
Communications Challenges

- **Definitions**
  - probable
  - suspect
- **Cumulative numbers**
- **Multiple messages**
- **Foreign press**

Crisis Communication

- Early
- Frequent
- Transparent
- Consistent
- What have been done by leaders?

Role of Political Leaders



Multiple Mixed Messages

- Public
- Professional
- International

Technical Information

- Timely
- Well defined
- Consistent
- Simply stated
- Separate technical education

Confidentiality *versus* Public Right to Know

- Technical information
- Security information
- Medical information
- Press leaks

Good Nuclear News to Communicate

- Increased security post 9/11
- Physical
- Cyber
- Background checks

Challenges for Nuclear

- Accidents can happen, therefore planning ahead e.g. sirens
- Nuclear safe
- Nuclear can undergo retrofit

THE DAVIS-BESSE CASE

V. Mitlyng
US Nuclear Regulatory Commission

Brief Davis-Besse Timeline

March 2002 – a cavity in the reactor head discovered
March 2002 – NRC dispatches Augmented Inspection Team to plant
April 2002 – NRC establishes an Oversight Panel under the Manual Chapter 0350
March 2003 – NRC grants permission to restart Davis-Besse

Restoring public confidence: the Davis-Besse case

Can one restore public confidence in a regulator if it has been lost because of a mistake, a failure, like a whole in the nuclear reactor head? I am still not sure.

But here is what we tried to do and we are told that it was successful.

We started with a lot of disadvantages, not the least of them being that a whole in the head is very easy to understand but is also easily exaggerated to inspire visions of Chernobyl – type nuclear accidents. This whole has been called by the press everything from “football” to “gaping” to “pine apple-size”.

Making the regulatory process transparent

The worst was over by the time the NRC learned about the degradation. And the NRC did not ful ly recognize the warning signs, as did the utility. It's not surprising that the NRC's critics, the media and the public had a lot of questions about what happened at Davis-Besse and why, as well as what did the incident say about the NRC's efficacy as an agency assigned with protecting public health and safety:

- How come the NRC missed this?
- How can we trust the NRC not to makes the same mistake?
- How can we have confidence in the NRC's regulatory process when it has failed at Davis-Besse?

Our starting point was to offer our stakeholders the maximum transparency and clarity on NRC's response to the vessel head degradation at Davis-Besse; offer opportunities for members of the public to observe our regulatory process and create opportunities asking questions and expressing concerns.

The plant was shut down for 25 months. After the creation of the oversight panel in March 2003, we began to hold monthly meetings in the vicinity of the plant; in the afternoon and in the evening to offer people an opportunity to attend after work. We had up to 400 people attending these to cal meetings. When public meetings were held at NRC's Headquarters or the Chicago office, around 100 phone lines were made available for members of the public who could not attend in person to listen and ask questions.

The NRC created a special web site dedicated to Davis-Besse related documents and information, which has been a fantastic resource for reporters, researchers and even for the NRC staff. The Davis-Besse page has created a historical record of the agency's response to the Davis-Besse head degradation which continues to be an outstanding resource.

Listening to the public's concerns

At all public meetings, the NRC staff encouraged and welcomed public comment; distributed public feedback forms and showed a slide with e-mail and telephone numbers of the regional public affairs officers at the end of every meeting telling people to call if they have any questions.

And when staff received comments on the conduct of these public meetings, the issue was immediately addressed. For example, one day, the oversight panel was criticized for sitting up on the stage of the high school auditorium, where we held the majority of our public meetings.

At the next public meeting, the panel stepped off the stage so that they were level with members of the public during the interactive part of the meeting.

The NRC received thousands of letters and e-mails generated by the efforts of the largest environmental public interest group in Ohio, the Ohio Citizens Action, to get local residents to urge the NRC not to allow the plant's restart. Most of us who attended the Davis-Besse public meetings have had to carry a thousand or two letters on the airplane back to Chicago after being handed these letters at the meetings. And we always thanked our stake holders for this input recognizing their essential role in the NRC's regulatory process.

Responding promptly and thoroughly

At various points in this process, the NRC encountered outrage, insults, disruptive protestors wit h limbs growing out of the heads and feet in the place of a nose, accusations of corruption and other expressions of the citizens groups' dissatisfaction with the NRC as a nuclear regulator. In every situation, the panel responded respectfully to all questions, comments and statements.

If the panel couldn't answer a specific question during a public meeting, it immediately became an action item to complete.

Panel members stayed begin long after the meeting were over to continue their dialogue with reporters or local citizens.

From the beginning, Davis-Besse attracted the attention of local, as well as national, media. At some meetings, we were interacting with close to a dozen reporters and camera crews. The Cleveland Plain Dealer assigned two reporters to the Davis-Besse story; they were in contact with us almost on a daily basis. The Toledo Blade assigned one reporter to the story. The Cleveland public radio station's environmental reporter attended most of our public meetings and did a couple of in-depth pieces on Davis-Besse, as well as providing routine coverage of the monthly public meetings. Local television

stations also covered the story, though not as regularly. The Associated Press, the Dow Jones and Reuters consistently covered the outage. National papers, such as the New York Times, the Wall Street Journal and USA Today all ran Davis-Besse stories. The panel and the public affairs office worked hard to build an open and responsive relationship with the media. We did our best to respond to media inquires as quickly and thoroughly as possible. Nontheless, there has been a lot of criticism of the NRC in the media coverage. However, a positive relationship between the NRC staff and the media has allowed us to communicate our point of view; a number of stories have reflected the NRC's key messages.

When the region received over 6 000 letters and e-mails, which included children's drawings, swear words, as well as insightful and tough questions, we had committed to reading every piece of that correspondence because it was important to the agency and important for us to communicate to our stake holders that their opinions are considered by the NRC. Furthermore, every single person who provided an address, physical or e-mail, received a response letter from the regional administrator.

As a result of these efforts, the NRC staff working on Davis-Besse oversight was able to establish trust and credibility with the media and the public.

Proactive messages that show regulatory accomplishments

By late summer of 2002, we began to realise that the amount of regulatory activity at Davis-Besse every month was staggering and that it wasn't possible to communicate that completely during public meetings. However, we also knew it was crucial for us to communicate to our stakeholders how much the NRC was doing at the plant. SO, we created a monthly newsletter which provided background information on head degradation, as well as information on key NRC activities related to the degradation since the last public meeting. We have put out 19 issues of the update, the last one came out after plant restart in May. I have brought some issues with me should anyone be interested in seeing them. You will also find all the issues posted on the Davis-Besse page on the NRC's web site.

The newsletter became an excellent communications tool for us with citizen's groups, congressional staffers, the media and others. It gave us an opportunity to communicate our messages to our key interlocutors.

When we debated on the most effective way to respond to the massive mailing of public letters, we considered a number of options - from reading a just a sample and responding by a posting a letter on a web site to reading them all and beginning each letter with the name of the addressee.

We embraced the latter option because we recognised it as an opportunity to deliver our message to those citizens who have shown interest in Davis-Besse.

Public affairs and technical staff worked closely throughout this process to make sure that the messages and the approach to public communication were always consistent. We worked together preparing talking points and Q&As on all major developments and issues, sometimes even for individual interviews.

Acknowledging mistakes

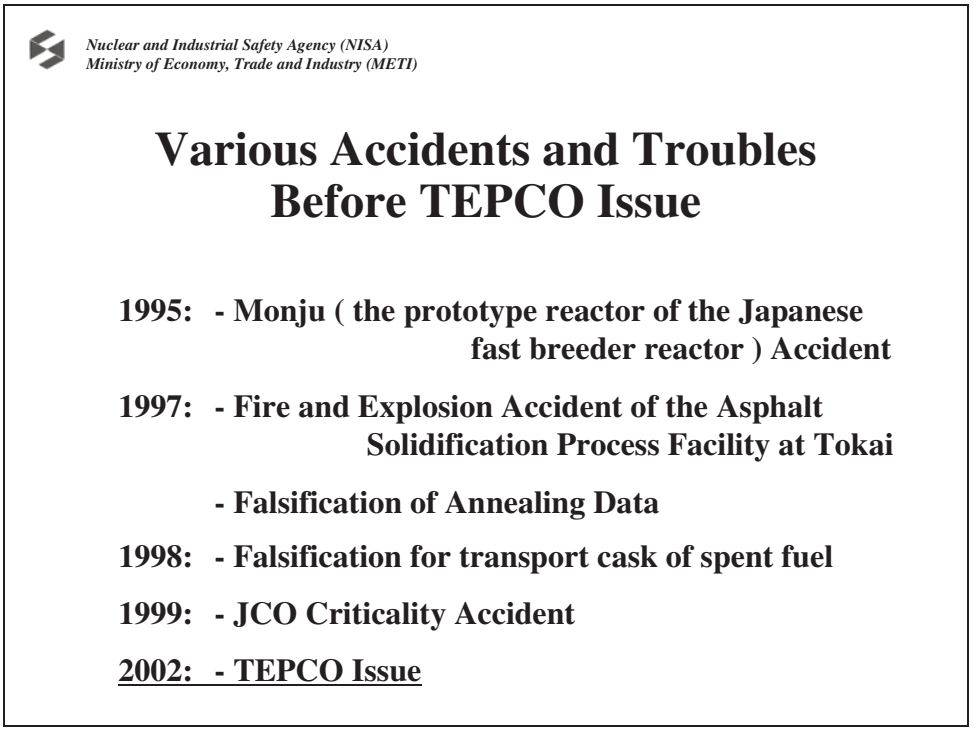
One of the most important messages we had to communicate was acknowledging that the NRC recognised its failure to discover the degradation earlier and what the agency has done to identify and address its own shortcomings.

In conclusion, what we tried to do was to anticipate the communications needs and challenges, make our communications forthcoming and prompt and give the public as much attention and time was required to keep them informed about every step in the NRC's oversight over Davis-Besse.

CHALLENGES AFTER TEPCO ISSUE

PUBLIC COMMUNICATION TO RESTORE PUBLIC CONFIDENCE IN REGULATORY AUTHORITY

T. Tanaka
Director, Nuclear Safety Public Relations and Training Division
Nuclear and Industrial Safety Agency (NISA), Japan



What is TEPCO Issue ?
(TEPCO : Tokyo Electric Power Company)

- **TEPCO Issue has started by an allegation in July 2000.**
- **TEPCO problem consists of two types of falsification during the process of inspection.**

  1. Falsification of records during Licensee's Self-Imposed Inspection process

  2. Obstruction of "Regulator's Periodical Inspection" during the leak rate test of CV

Nuclear and Industrial Safety Agency (NISA)
Ministry of Economy, Trade and Industry (METI)

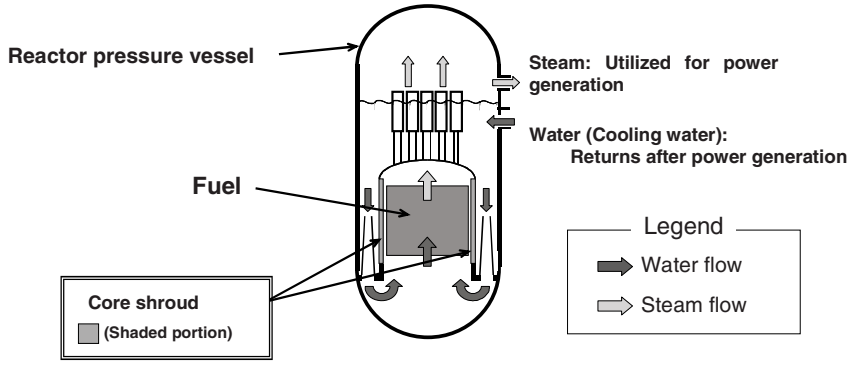
Falsified recording of Licensee's Self-imposed Inspections at 3 Nuclear Power Stations of TEPCO (occurred late 1980s-1990s)

- **Cracks on in-core equipment such as 'core shroud' were found but left without safety evaluation**
- **Repair records of cracks, etc. were deleted and the facts of repairing were concealed**

Core shroud

Core shroud is a stainless steel equipment unit in cylindrical shape surrounding the fuel in the reactor pressure vessel. It serves as a partition separating the cooling water (steam) heated by the fuel from the flow of low-temperature cooling water, but does not confine any radioactive material or high-temperature and high-pressure cooling water.

Layout drawing of core shroud

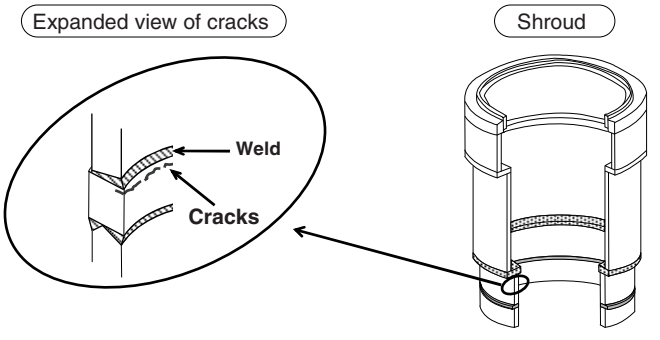


Cracks in Core shroud

A core shroud is constructed by joining a lot of stainless steel sheets by welding. The cracks are produced in the vicinity of welded parts of the stainless steel sheets.

The situation of cracking is verified by ultrasonic flaw detection (inspection method consisting in emitting ultrasonic waves and grasping the shape of crack, etc. from their reflected waves), which is one of non-destructive examinations (method of inspection conducted without destroying the object equipment to be inspected).

Image of cracks in core shroud



Falsification of the containment leak rate inspection at Fukushima No.1 Nuclear Power Station No.1 Unit in 1991 and 1992

- **Air intentionally injected into containment by compressor**

Nuclear and Industrial Safety Agency (NISA)
Ministry of Economy, Trade and Industry (METI)

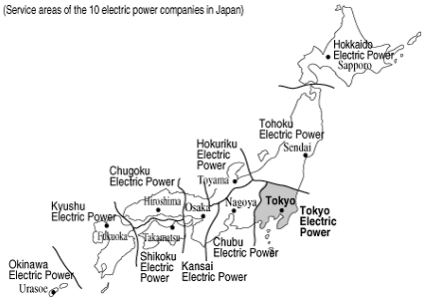
Why did the falsification on 'Periodical Inspections' occur?

- **Perhaps avoid possible significant delay of the completion of 'Periodical Inspections'?**
- **Self-righteous judgment**
- **No audit by top management**
- **No strong recognition of the importance of establishing and implementing a quality management system**

Nuclear and Industrial Safety Agency (NISA)
Ministry of Economy, Trade and Industry (METI)

TEPCO's Status in Japan

- **Population of Service Area : 428 Million (33.7%)**
- **Amount of Electricity Sales : 281 TWh (33.5%)**
- **Generating Capacity : 60,380 MW**
  (Nuclear Power) : 17,310 MW (37.8%), 17 Units
- **Number of Employees : 39,619**



Nuclear and Industrial Safety Agency (NISA)
Ministry of Economy, Trade and Industry (METI)

Countermeasures to TEPCO Issues (New Safety Regulation)

- **Improvement of Licensee's Inspection System**
  - **Self-imposed Inspection ⇒ Mandatory Inspection**
  - **Introduction of in-service standard etc.**
- **Establishment of Quality Assurance System in Licensee's Safety Operation Rules**
  - **Clarification of top management commitment**
  - **Establishment of independent audit system**
  - **Continuous implementation of P-D-C-A**
- **Review of Licensee's Periodical Inspections by JNES**
- **Clarification of Safety Regulation System (Clear Criteria for Trouble Reporting, Clear Scope for Construction Permit, etc.)**
- **Improvement of the Allegation Programme**

How did the Regulator deal with the allegation?

- **In June 2000, the Regulator was under preparation of the establishment of allegation system.**
- **In July 2000, the Regulator (former MITI) received allegation that there was falsification of inspection records at TEPCO's NPP. (In November 2000, another allegation was made.)**
- **In October 2001, the Regulator (NISA, METI) requested GE and its subsidiary in Japan to cooperate in the investigation.**
- **In March 2002, the information from GE suggested existence of more than 20 falsification cases at TEPCO's NPPs.**
- **In August 2002, TEPCO admitted that there were a total of 29 suspected falsification cases at 13 Units.**
- **In August 2002, NISA carried out the safety evaluation and confirmed that remaining cracks would not immediately have significant effects on safety. Then, released the investigation results on August 2002.**

Nuclear and Industrial Safety Agency (NISA)
Ministry of Economy, Trade and Industry (METI)

Reaction of Public

- **At the revelation of TEPCO's falsification issue public accused TEPCO of its falsification, but gradually began to accuse NISA.**
- **Why public began to accuse NISA ?**
  - **It took 2 years to disclose the fact after the NISA received the allegation from a personnel of an inspection company. ---------- lack of efficiency**
  - **Resident near the sites complained of the fact that the Regulator could not prevent TEPCO's falsification, which caused their unrest on the nuclear safety. ---------- lack of effectiveness**
  - **Public tend to accuse agencies of their lack of efficiency, effectiveness and transparency.**

What is the failure of Regulator ?

- **Report from the Committee for the Evaluation on NISA's Investigation Process**

  1. **Inadequate awareness of public accountability as an administrative agency**
     - **Led to the delay of the announcement**
     - **All of the effort was focused on the strict regulation in a scientific sense**
  2. **Faults in the investigation procedure**

Nuclear and Industrial Safety Agency (NISA)
Ministry of Economy, Trade and Industry (METI)

Countermeasures taken by NISA to restore public confidence in past several months

- **The director general and executive members of NISA gave account regulatory activities for TEPCO issues**
  - **to local governments and members of local councils on several occasions.**
  - **in attending several meetings involving residents in the reactor sites of Fukushima and Kashiwazaki-Kariwa.**
- **Ensure easily understandable public information on nuclear safety regulation**
- **Enhancing communication with Media**

Nuclear and Industrial Safety Agency (NISA)
Ministry of Economy, Trade and Industry (METI)

Current Situation of TEPCO's Nuclear Power Reactors

<u>Licensees can not restart reactors without local governors' agreement even if NISA confirms its safety for restart.</u> **(Licensees have made "Agreement for ensuring security of residents near the site")**

(In the Spring of 2003)

- **All of 17 reactors stop operation**

(At the beginning of August, 2003)

- **13 reactors out of 17 reactors stop operation**

(In April 2004)

- **4 reactors out of 17 reactors of still stop operation**

Nuclear and Industrial Safety Agency (NISA)
Ministry of Economy, Trade and Industry (METI)

Further efforts still continue to restore public confidence

- **In April 2004, responsible division for Public Relations (Nuclear Safety Public Relations and Training Division) has been established**
- **In 2004 FY, a total amount of 190 Million Yen (US$1.7 M) budget for Regulator's Public Relations has been allocated for the first time**
- **Deploying communication activities at the offices of Nuclear Safety Inspector (resident inspector)**
- **Exploring communication with local Media**
- **In May 2004 (May : Nuclear Energy Safety Promotion Month), senior officials of NISA, including Director-General, visit separately all nuclear facilities having communication activities with licensee's employees and local Media in cooperation with head resident inspectors.**

PAKS-2: REBUILDING PUBLIC CONFIDENCE AFTER AN INCIDENT

E. Besenyei
Head of Public Information
Hungarian Atomic Energy Authority, Hungary

I. Lux
Deputy Director General
Hungarian Atomic Energy Authority, Hungary

On 10 April there was a serious incident in the cleaning tank used for chemical cleaning of the fuel assemblies placed temporarily in a pit in the reactor hall of Unit 2 at the Paks Nuclear Power Plant. Radioactive gas release was detected in the reactor hall. There was an unsuccessful attempt to open the lid of the vessel located 10 meters under water. The incident resulted in an elevated release of noble gas and iodine through the NPP stack, no other off-site effect was detected. The event was classified to 2 on the INES scale. On 16 April the plant managed to remove the lid and by taking remote camera-snapshots it turned out that all fuel assemblies in the tank had been highly damaged but not melted. As a consequence the incident was reclassified to 3 on the INES scale. The Nuclear Emergency Response Organisation of the NPP and the HAEA was alerted. The IAEA and the neighbouring countries were notified. The possible scenarios were analysed, there was no change in the plant status, or in radiation circumstances. In the later phase of the event radiation was evaluated three times a day and several analyses were performed on the possibility of criticality. On 20 April the emergency state was called off. After the reclassification there was an intensive media, professional and political interest. The event became a type of communication crisis.

Concerning the consequences of the event, the radioactivity within the reactor hall was slightly above limit, there was no violation in the controlled area outside the hermetic zone, the external and internal dose of the workers were very low. Based on the off-site measurements the estimated average dose for the population was about 10-4 times the annual background.

Having analysed the possible causes of the incident the post cleaning cooling was thought to be insufficient because of the coolant by-pass through some holes on the assembly walls and the possible misalignment of the assemblies. The initial gas release was due to assembly dry-out caused by the evolution of a steam cushion. After lid opening the assemblies were crushed by thermal shock or steam explosion.

After the incident assessment reports were prepared by the NPP, by the Hungarian Atomic Energy Authority and by the expert mission of the IAEA. All reports arrived at the same conclusions: the root cause of the incident was the design of the tank. At the same time there were other causes leading to that neither the plant nor the authority revealed the design deficiencies of the tank. Among those it should be mentioned the decrease of safety culture at the Paks NPP and the fact that production prevailed over safety. Moreover there was an excessive trust in the well-known contractor,

the safety significance of the process was underestimated both by the NPP and the regulatory body and the stress of time also contributed to the failure. Following the reports there were personnel changes both at the plant and the HAEA. The minister of Economy and Transport appointed a commissioner to co-ordinate among the organisations concerned. The event became a political issue and was evaluated by the Parliament Environmental Standing Committee at several sessions, moreover an ad-hoc Committee of the Parliament was set up in September.

A recovery project is ongoing to remove the cleaning tank from the reactor hall and to restart unit 2. A contract was concluded with the Russian company TVEL. The project includes about 6 month preparation, 6 month regulatory approval and 3-4 month fuel removal and decontamination. The restart of unit 2 is uncertain. The plant and the foreign company agreed on the compensation for the damage without legal action.

Unusually high and assiduous media interest was experienced both by the Paks NPP and the HAEA. Between 14 April and 18 August the Paks NPP issued 21 press releases and 9 other forms of information were put on its Internet site. HAEA issued 11 press releases and organised 4 press conferences. 146 calls were received from the media during this period. Because of the very high media interest the Paks NPP decided to hold daily press conferences with video connection between the two locations in Paks and Budapest. It was every day from May till almost October and later it became weekly. In November last year the 50th press conference of the year was celebrated. On that occasion the plant manager presented a three dimensional CAD model showing the condition and location of fuel assemblies in the tank and the sequence of the recovery work. Though the media interest started to decrease in September any tiny event in connection with the plant revitalised the media interest. Between April and August the number of references appeared in different medium in connection with this incident amounted to more than 10 000.

A media analysis of the articles on the event and on the consequences showed that beside the plant the Hungarian Atomic Energy Authority was the most frequently cited organisation. It was cited for about 1 700 times, the government about almost 1 000 times and the IAEA about 800 times. At the same time this event gave a good opportunity for the Hungarian green organisations including Greenpeace, Energy Club and the Hungarian Green Party to appear in the media. In total they appeared almost 1 000 times in the same period.

It is worth to list the issues that aroused media interest. The safety of the plant was questioned several times. About 16% of the articles dealt with this issue including the necessity of a sarcophagus above Unit 2 or whether the plant can continue its operation or not, the measurement of radiation was satisfactory or not etc. Personal responsibility was an important issue (14%); who and to what extent was responsible for the incident. One tenth of the articles dealt with the economical consequences, the extent of the loss, and the financial compensation etc.

In June 2003 it was the 16th times that an annual survey of public opinion was conducted. In the surveys there were questions repeated every year and some new questions about the serious incident were also asked. The answers steadily reflected public opinion on the role of atomic energy in Hungary. It was interesting to compare the results with those of the previous surveys. It showed a change of the opinion and the attitude of the public to the prospects of the future of nuclear energy. Much less support was received for the life extension of the plant, although this solution was given high preference. Though the supporters of nuclear energy have hold the majority, supposedly as an effect of the incident one could see a significant decrease of the ratio of supporters.

In the case of a referendum on the construction of a new nuclear plant about 43% (54%) of those questioned would support and 45% (37%) would oppose it. The numbers in bracket shows the result in 2002. The essential decrease was due to staggering confidence in nuclear energy.

There were questions on the strictness of safety requirements at the plant and the extent of its compliance with them. According to the survey the requirements were considered less strict then last year and there was a great decrease (from 44 to 14%) concerning full compliance. It indicated a considerable loss of confidence in the safety of the plant.

Public acceptance of the operation of the plant has been changing for years within a range between 63 and 80%; that is a very high value even in international comparison. It was interesting to see that this support remained in the same range (73%). Though public confidence decreased due to the incident, more people became aware of the role of the Paks NPP in the security of energy supply and its role in the moderation of electricity prices in Hungary.

Regarding communication demand one can conclude from the answers that the public would have expected more information on the occurrence of the incident and the elimination of its consequences.

When people were asked about responsibility for the incident, the management of the plant was blamed on the first place but the public put almost equal blame on the foreign company designing the tank and performing the cleaning. Almost 20% of the people blamed the HAEA, too. Most people believed that the safety situation of Unit 2 has satisfactorily stabilised since the incident. This showed that communication messages have reached the public and been largely accepted.

Several measures have been taken after the assessment reports and investigations in connection with the incident. The management system of the plant was reviewed by an expert group of the IAEA. Action plans have been elaborated to improve safety culture at the plant. Some of the actions have already been implemented and others are under way. The HAEA also conducted investigations on the root cause of the incident and a thorough review of the activity of the authority has also been made. Several changes have been decided and implemented since then. The modification of the emergency preparedness system of Hungary is under way. National and regional emergency preparedness plans are being revised. A new governmental decree has been issued recently on the order of information of the public in case of nuclear or radiological emergency. High attention has been paid to co-ordination of the activity of the participants in the system. Communication is an accentuated part of the plan and the details will be elaborated by taking into account of the lessons learned during this incident. The Internet site of the Hungarian Atomic Energy Authority has been renewed and modified. It is frequently refreshed by topical news on the activity of the authority. The authority has a bimonthly newsletter which is also used to disseminate information on the incident and on the follow-up actions.

However this was not a real emergency situation as there was no need for emergency actions as neither on-site nor off-site a communication crisis was experienced. Though we have never wanted to hide anything and as a matter of fact were always ready to give interviews and answering any question, more proactive approach could have shortened the crisis period. It was very hard to communicate that though the situation was very difficult both from technical and financial point of view, the public was not in any danger. It was also difficult to explain that the event occurred outside the reactor. Moreover the public hardly understood the results of radiation measurements.

From the public opinion poll and from speaking with colleagues, friends, neighbours and journalists we learned that it could have been better from the very beginning if we – both the plant and the authority – communicate every tiny events independently of its relevance to the incident otherwise

they could be blamed for hiding important facts. We also learned that strong co-operation between the players inside and outside of the organisations was of high value and not only in the communication field.

The Internet proved to be an effective tool for communication as every material issued was put on the internet site of the organisations. The reason for not inducing high impact in the neighbouring countries was partly due to open and transparent communication in English, too, even from the beginning. There was a couple of days delay between the national and international interest and after the first days we learned how to deal with the situation. The incident was presented several times on meetings and conferences. The invitation of the international expert team proved to be very useful and helped calm down the situation.

There was another result of this incident that otherwise we always wanted to achieve. The public learned a lot about nuclear energy, its role in the energy system of Hungary, the role, the name and the activity of the regulatory body. Since then we have been asked several times as expert organisation in relation to other nuclear issues, too.

One of the lessons we have learned in the course of communication on the incident that rebuilding public confidence calls for conscious, calculable and well communicated steps, i.e. authentic answers are needed. It is a long-term process and cannot be achieved overnight. The key words are known: openness, transparency and timely communication.

COMMUNICATING WITH LOCAL STAKEHOLDERS: A BELGIAN EXPERIENCE WITHIN THE RADIOACTIVE WASTE DISPOSAL PROGRAMME

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1. The Belgian context on radioactive waste disposal

In Belgium, the task of radioactive waste management has been entrusted to a separate government agency created in 1980: the Belgian Agency for Management of Radioactive Waste and Enriched Fissile Materials, known by the French/Dutch acronym ONDRAF/NIRAS. More information can be found on the ONDRAF/NIRAS website [1].

A short historical perspective and the present context on the long-term management of short-lived low-level radioactive waste disposal is shortly described hereafter [1, 2].

Until the international moratorium of 1983, Belgium relied on sea disposal for its low-level waste. Since then, ondraf/niras, the Belgian waste management agency, has conducted studies to look for land-based solutions. These studies, some on going, have passed through various phases. The sometimes harsh reactions in public opinion and the recommendations of independent experts, however, progressively led ondraf/niras to question its work methodology.

In 1998, the Belgian federal government opted for a final, or potentially final, solution for the long-term management of short-lived, low-level radioactive waste, a solution that also had to be progressive, flexible, and reversible. At the same time, the government entrusted new missions to ondraf/niras – in particular that of developing methods to enable the integration of final repository project proposals at the local level – and restricted the number of potential sites for final disposal to the four nuclear sites already existing in Belgium and, possibly, to non-nuclear but interested local districts.

ONDRAF/NIRAS is now carrying out the necessary studies to help policymakers reach a decision. Technical feasibility, budget and safety are all being thoroughly investigated. Attention is also devoted to local environmental and socio-economical factors, including public acceptance.

In consequence of the governmental decision mentioned above, ONDRAF/NIRAS has confined itself for its in situ research to the existing nuclear sites (Doel, Fleurus-Farciennes, Mol-Dessel and Tihange) and to areas where the local authorities are showing an interest. To enable the local community to get involved in the studies, ONDRAF/NIRAS has developed an open collaboration structure: local partnerships. This should clear the way for the successful integration of the disposal project at local level.

2. The concept of Local Partnerships

Early 1998, Ondraf/Niras set up a new programme of work based on an entirely new methodology to bring the decision-making process closer to the public and to lower the threshold for active participation [3]. Researchers from the University of Antwerp (UA) and the University Faculties of Luxemburg (FUL), developed the idea of local partnerships, through intense dialogue with Ondraf/Niras. The partnerships are intended to bring the decision-making process closer to the public and to lower the threshold for active participation.

Three local partnerships have been formed, bringing together all local representative interested parties (including individual citizens of the local community on a voluntary base) and members of Ondraf/Niras. The first of these, known as STOLA-Dessel (Studie- en Overleggroep Laagactief Afval – study and consultation group on low-level waste), was set up on 30 September 1999 in Dessel. The second, MONA (Mols Overleg Nucleair Afval Categorie A – consultative group on type A radioactive waste), was formed on 9 February 2000 in Mol. The third, PaLoFF (Partenariat Local Fleurus-Farciennes – local partnership Fleurus-Farciennes), was formed on 27 February 2003. More information on these 3 partnerships can be found on their websites [4, 5, 6].

In order to allow the partnership to work independently, each partnership receives an annual budget from Ondraf/Niras. With this money the partnership can, for example, remunerate self-chosen experts, order specific studies or reviews and organise visits to disposal facilities in other countries. Each partnership has engaged two project coordinators, one with a scientific background, the other with a background in communication, to perform the day-to-day work: administration, organising of meetings, draw-up reports, take care of the communication with the population.

The concept and the functioning of the Belgian Local Partnerships were recently extensively discussed during the 4th meeting of the OECD/NEA Forum on Stakeholder Confidence [2]. More information can also be found in a recent paper by MONA [7].

3. Belgian regulatory context – Role of AVN

The legislative and regulatory framework has been put progressively in place since 1955. The law of 15 April 1994, replacing the law of 29 March 1958, very generally outlines the protection of the population and the environment against the dangers of ionising radiation. The detailed stipulations are given in the Royal Decree (R.D.) of 20 July 2001, replacing the R.D. of 28 February 1963, "providing the General Regulations regarding protection of the population, workers, and environment against the dangers of ionising radiation". The legislative framework thus comprises:

- a set of laws and regulations, concerning the licensing of nuclear establishments, the measures to protect the health of personnel and the public, nuclear civil liability, safeguards, nuclear materials transport, waste management, emergency plans, etc.;

- a nuclear installation licensing system forbidding to operate an installation without a licence (cf. R.D. of 20.07.2001 and, among other, its Articles 5, 6, 15, 16, 79 as well as all the Articles detailing the technical stipulations);

- a regulatory inspection and evaluation system of the nuclear installations, for verifying compliance with the regulations and conditions set in the licence (cf. R.D. of 20.07.2001, among other its Articles 6, 12, 13, 15, 16, 23);

- measures intended to enforce compliance with the relevant regulations and the conditions set in the licence, including the suspension, amendment or withdrawal of licence (cf. R.D. of 20.07.2001, among other its Articles 5, 12, 13, 16).

The law of 15 April 1994 has created the Federal Agency for Nuclear Control (FANC) and defines the missions entrusted to this agency, regrouping most of the activities previously held by the relevant Ministries. The various Articles of that law were gradually brought into force as needed, and the FANC became completely operational on 1 September 2001. According to the law of 15 April 1994, the FANC appoints the authorized inspection organisations in charge of the regulatory inspections of nuclear installations.

AVN is an authorized body for inspection and safety review of the Belgian nuclear power plants, research reactors, MOX fuel manufacturer, waste management, radioisotope producing installations and use of ionising radiation in medical and industrial areas.

More information on the Belgian legislative and regulatory system can be found in the Belgian report to the Nuclear Safety Convention and in the Belgian report to the Joint Convention, available on the AVN [8] and FANC [9] websites.

In 1998, Ondraf/Niras was requested by the Government to involve the nuclear safety authorities in its activities of safety evaluation of site-specific waste disposal options (deep or surface disposal) for the short-lived low-level waste. A working group was created in which Ondraf/Niras, FANC and AVN discuss different aspects of the Ondraf/Niras program concerning the long term management of short-lived low-level radioactive waste disposal. It includes also the review of technical safety assessments performed by Ondraf/Niras or by contractors for Ondraf/Niras.

4. Experience of AVN from its interaction with Local Partnerships

In the framework of their activities with Ondraf/Niras, the Local Partnerships MONA and STOLA expressed the wish to have contacts with the Belgian safety authorities. In particular, the Local Partnerships wanted to be better informed about the independent assessment made by the regulatory organisations on the safety assessments of the disposal options.

The FANC has given presentations on the Belgian regulatory framework and nuclear safety regulations.

To both Local Partnerships, AVN explained its role in the Belgian regulatory context. Special attention was drawn on the fact that at this stage of the NIRAS-project on radioactive waste disposal, AVN has not yet a regulatory assessment role. Indeed, the project is still in a pre-project phase and no formal licensing is on going. Even at this stage of the project, the Local Partnerships stressed their appreciation for the explanations received from AVN as an independent expertise body.

AVN explained in the first place its role as an Authorised Inspection Agency within the Belgian regulatory framework. The variety of installations where AVN exercises its role of Authorised Inspection Agency was presented to illustrate AVN's experience in nuclear safety assessment. Also AVN's role in the Belgian nuclear emergency plan was explained. The way AVN is building and maintaining its expertise by training of its personnel, participating in international activities (working groups, conferences, ...), exchanges of operational feedback of nuclear installations, and by its research and development program, was explained. The legal basis and structure of AVN as an independent non-profit organisation was described. The existence and role of a surveillance committee

and a Scientific and Technical Committee at AVN were highlighted. Finally, the fundamental values of AVN were explained.

- Fulfil its missions in full independence, coherence and impartiality.
- Maintain its competence in nuclear safety and radiation protection.
- Be at the service of the population and the workers.
- Continuously optimize the dynamics of a multidisciplinary team.
- Prioritize the good relationship and the mutual respect with each of its partners.

Further, AVN described how expertise has been built up during the last 5 years in the field of radioactive waste disposal. Before 1998, AVN had no activities in this field. It was explained that the request of the Government towards Ondraf/Niras to involve the nuclear regulatory organisations in the discussions already at that stage, was experienced as an effective way to prepare the safety authorities on their later task as licensing authorities and to inform Ondraf/Niras in an early stage on special points of attention, as identified by the regulatory organisations, to be considered in the safety assessments.

Later, AVN presented to the Local Partnership MONA the main results of the review of the safety analyses developed by Ondraf/Niras. It was for MONA an opportunity to check the outcomes of their own discussions (mainly those of their working group on safety) with the outcomes of the AVN safety reviews.

For AVN, such direct contacts with local stakeholders were a rather new approach (together with some recent participation in local committees on nuclear safety in the municipalities of the nuclear power plants). This voluntary policy for communicating with local stakeholders fits perfectly well in the values – see above – that AVN has defined for its activities.

In this way, communicating with local stakeholders is for AVN a rather recent experience. However, the interest and the motivation encountered at those local stakeholders are an incentive to pursue and develop further this strategy of being as open and transparent as possible.

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SESSION 5

HOW DOES THE REGULATOR EFFECTIVELY INVOLVE THE PUBLIC IN ITS ACTIVITIES?

Chair: K. Sato

Co-chair: D. Degueldre

SUMMARY OF SESSION 5

How does the regulator effectively involve the public in its activities?

As a variety of viewpoints and subjects were given in the different representations. The following is a summary:

- Regulator's commitments regarding public participation and experience gained in terms of effectiveness, visibility and credibility. The way the public hearings/meetings are organised and how they are used in the regulatory process.
- How public participation is expected to be in the frame of the new proposed site selection procedure for radioactive waste disposal facility. This new process expects stakeholder involvement from the very beginning, even during the development of the site selection procedure itself, consisting of steps very precisely structured.
- Regulator's experience on responding to sensitive or "high emotional" situations reminding the three main key-principles : (1) preparation to have an opportunity to have success; (2) always being honest, even during an "emergency"; (3) start by understanding correctly the issue.
- On how to speak about radioactivity to schoolchildren in the frame of an issue of a specific newspaper dedicated for children (8-12 years). Additional local actions in schools were also mentioned.

HOW DOES THE REGULATOR EFFECTIVELY INVOLVE THE PUBLIC IN ITS ACTIVITIES: THE CANADIAN NUCLEAR SAFETY COMMISSION'S PUBLIC HEARING AND MEETING PROCESS

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Abstract of Oral Presentation

The oral presentation given in the context of Session 5 of the conference has addressed the following points:

- Explanation of Commission structure and its role as a tribunal.
- The rationale for public participation through a tribunal.
- Increased participation through the public hearing and meeting process.
- Stakeholder reactions: applause and criticism.
- Stakeholder participation: the future.

Background Paper on Hearing Process at CNSC

The following background paper is not a synopsis of the oral presentation. Instead, it provides information on the Commission and its public hearing and meeting process as a foundation for the discussion on the practical considerations of increased transparency through public participation.

1. Introduction

The Canadian Nuclear Safety Commission (CNSC) regulates the use of nuclear energy and materials to protect health, safety, security and the environment and to respect Canada's international commitments on the peaceful use of nuclear energy.

The Canadian Nuclear Safety Commission can be best described as the watchdog over the use of nuclear energy and materials in Canada. It is one of only a few nuclear regulators in the world that will involve the public in the conduct of hearings and meetings. The CNSC is an independent agency of the Government of Canada and operates in a transparent manner. Its operations are open to formal public scrutiny.

There are two parts to the CNSC: the Commission Tribunal and the CNSC staff who provides advice to the Commission. The CNSC staff is a technically-oriented organisation of approximately 500 employees responsible for regulating radiological health, safety, security and the environmental aspects of over 4 000 licensees engaged in uranium mining, nuclear power generation, and the industrial, medical and research applications of nuclear energy throughout Canada. The CNSC is

also responsible for specific aspects of Canada's international commitments regarding non-proliferation of nuclear weapons.

The Commission Tribunal (usually referred to simply as the Commission) is an independent quasi-judicial administrative tribunal consisting of up to seven Commission Members appointed by the Governor in Council (Canadian federal government). The Commission takes into account the views, concerns and opinions of interested parties and interventionists when establishing regulatory policy and making licensing decisions. For licensing matters, CNSC staff prepares recommendations for Members of the Commission, who make the final independent decisions after hearing from the interested parties. Matters before the tribunal and therefore heard in the context of public hearings are those involving nuclear generating stations, uranium mines and mills, nuclear waste facilities and research reactors. The bulk of licensing activities, pertaining for example to nuclear substances, has however been delegated by the tribunal to CNSC staff.

The Commission has the power to make regulations, with the approval of the Governor in Council (Cabinet), on a wide variety of subjects related to nuclear activity. These range from the development, production and use of nuclear energy to the protection of nuclear workers to measures to ensure the maintenance of national security and compliance with Canada's international obligations. Commission Members are kept informed about the regulatory direction of the CNSC and relevant developments that may lead to regulatory change in a number of ways. Members are exposed to current issues and concerns through their participation in public hearings and licensing decisions, and access to regulatory documentation and press clippings on nuclear-related matters. CNSC staff reports to the Commission, at public meetings, on significant developments in relation to a particular situation affecting one or more licensees in Canada. Staff also reports periodically at public meetings on the performance of individual major licensees.

2. Historical Notes

On 31 May 2000, the CNSC replaced the Atomic Energy Control Board (AECB) when the new Nuclear and Safety Control Act (NSCA) replaced the Atomic Energy Control Act (AECA).

The AECA was enacted in 1946. Since that time, there have been significant changes in the extent and nature of nuclear activities in Canada and throughout the world, and in society's expectations of government regulation of nuclear activity. The focus of the regulatory activities of the AECB evolved to include the health, safety and environmental consequences of nuclear activities, while still continuing to control security aspects. The AECA itself, however, did not mention health, safety or environmental protection. These considerations now are clearly provided for in the NSCA.

By the mid-1970s, a general trend for governments to act more openly and transparently had emerged. Recognizing that public confidence relied in part on the public observing how the AECB carried out its regulatory responsibilities, in particular its licensing decisions, the AECB instituted a practice of conducting Meetings of the Board in public.

In 1983, the AECB issued its first "Policy and Procedures on Representations and Appearances", which formalised that AECB practice. The policy stated that the AECB "was prepared" to receive written statements of views from an applicant, a licensee, members of the public and special interest groups, and, "in certain cases", to grant appearances before the President and CNSC staff, or at Meetings of the Board. This approach evolved over time to the point where public meetings, advertised in advance and involving the participation of a number of interested parties, became the norm. By August 1997, the AECB promoted the objective that interested parties and intervenors had an opportunity to express their views and to provide input into matters presented to the AECB.

The NSCA goes a step further and requires that the Commission hold public hearings for most licensing matters that come before it for decision. In addition, the NSCA allows the Commission to hold public hearings on any other matter within its jurisdiction if the Commission determines it is in the public interest to do so. This is in addition to the meetings of the Commission which are also generally open to the public. Note that in camera or closed sessions may be held on sensitive issues, such as security matters.

3. The Hearing Process

3.1 General principles:

When licensing nuclear activities, the Commission makes a decision which will impact primarily on particular individuals or companies. In so doing, the Commission is generally subject to the legal principles of fairness, some of which are reflected in specific provisions of the NSCA and of the Rules of Procedure which apply to these proceedings.

The NSCA requires that before the Commission makes a licensing decision, it must give the applicant / licensee an "opportunity to be heard". In the interest of fair play, the Commission must give the person most affected by the decision the opportunity to present their views to it before making its decision. With respect to certain decisions made by the Commission, the NSCA imposes an added obligation to hold a "public hearing". Before making a licensing decision under subsection 24(2) or where it would be in the public interest to do so, the Commission must hold a public hearing. A public hearing is a hearing structured so as to give affected parties and in most cases interested members of the public a reasonable opportunity to make submissions in relation to the matter to be decided by the Commission. Public hearings are a highly visible component of the work of the Commission. The Commission holds approximately 30 public hearings each year, aggregated in about 20 hearing days.

3.2 Public participation:

The Rules of Procedure facilitate and encourage active participation by members of the public. In addition to notifying the applicant or licensee, the Commission gives 60 days advance notice of a public hearing in a manner which is likely to come to the attention of interested members of the public. As a general rule, the notice of public hearing is posted on the CNSC website and is also published in newspapers serving the area in which the facility is located. The notice supplies information on the duration of the hearing (one or two days), its purpose, dates, time, place and the deadlines for filing documents prior to the hearing.

Participants may attend in person to make their presentations or have their written submissions considered in a public forum. Members of the public may also attend and observe the proceedings without further formality. In order to participate actively in the hearing, interested persons must seek and be granted the status of an interventionist by the Commission. Public hearings are usually well attended by members of the public and of the media, and may include a number of interventionists (e.g., individuals, unions, employees, community and environmental groups). The Commission has a public hearing room in Ottawa but may from time to time conduct hearings at different locations across the country, to provide a greater opportunity for the public to participate in or observe its proceedings. The Commission has introduced in 2002 the use of teleconferencing and videoconferencing, and plans to continue its move toward a greater use of available technologies. For example, the proceedings conducted in March 2004 were video web-cast to a select group of participants as part of a pilot project.

In accordance with the Rules of Procedure, a public hearing before the Commission may take place on one day or on two non-consecutive days. Most major decisions are made following a 2-day public hearing. On Day 1 of a two-day public hearing, the applicant or licensee and CNSC staff makes their presentations to the Commission. On Day 2 of the public hearing, the applicant and CNSC staff may provide supplemental information, and interventionists make their presentations. Day 1 and Day 2 may be held several months apart, but are typically 60 days apart. On an average public hearing day, Commission Members will sit to hear a number of matters. Some of these may be at the Day 1 stage; others will be at the Day 2 stage. Following Day 2 of a public hearing, the Commission deliberates and makes its decision on the matter. If the hearing takes place on a single day, the decision is made following the hearing.

A member of the public that wishes to make a submission is called an "interventionist". A request for permission to intervene, attaching submissions, must be filed with the Commission at least 30 days before the second hearing day of a two-day hearing. For a one-day hearing, an alternative filing date for interventionists will be established and publicized via a public notice. It will be later than the filing date for the applicant and staff. The interventionists will have an opportunity to review the materials filed by the applicant and CNSC staff and, for a two-day hearing, to attend or review the transcripts of the first day of the hearing. The deadlines for filing interventions also ensures that the applicant and CNSC staff have an adequate opportunity to review and prepare to respond to the intervention during the hearing. On the second hearing day, the interventionists present their submissions orally and/or in written form.

An intervention request must describe the interest of the person making the request in the matter or the expertise or information possessed by the person that may be useful to the Commission. The Commission may permit persons who demonstrate the requisite interest, expertise or knowledge to participate in the proceedings in the manner and to the extent that the Commission considers will enable it to determine the matter before it in a fair, informal and expeditious way. It has not been the practice of the Commission to challenge a person requesting to intervene, although it is open for it to do so. The person would then have to demonstrate the requisite interest, expertise or knowledge, following which the Commission would rule on whether he or she would be allowed to participate. Customarily, the Commission has welcomed the input of interventionists but will manage their participation in an appropriate manner. A guideline of 10 minutes per oral presentation is employed for interventionists.

The CNSC has published an information document entitled "Canadian Nuclear Safety Commission Public Hearings on Licensing Matters" (INFO-0715) which reviews the procedures at a public hearing for the benefit of those who may wish to attend or participate.

3.3 Fair, informal and expeditious process:

The Commission procedures are less formal than court hearings. In a traditional court hearing, the two opposing parties, through their counsel, present evidence (documents, written and oral testimony received under oath), conduct cross-examination of each others' witnesses and then deliver final argument.

Although various participants in a public hearing before the Commission on a licensing matter may take conflicting positions on some issues, there are not two opposing parties in the strict sense. Lawyers rarely appear before the Commission. Customarily, a public hearing before the Commission does not involve the presentation of formal evidence under oath, followed by argument, in a two-step process. The Commission has the power to require sworn testimony, written or oral, and to allow cross-examination, if necessary. The Commission could also require the production of documents and

summon witnesses before it to testify, but it does not normally do so. However, the Commission will informally, from time to time, invite representatives from other government departments or organisations to be in attendance to respond to questions from Members in their areas of jurisdiction. The Commission Members rely on written submissions, hear oral presentations based on those submissions, and ask questions to complete the evidence and argumentation pertaining to each matter. The applicant and any interventionists may question each other and any witnesses, but only with the permission of the Commission and in the manner that the Commission may determine. Questioning is controlled by the Commission through the presiding Member. The guiding principle, which is stated in the NSCA, is that all proceedings before the Commission shall be dealt with as informally and expeditiously as the circumstances and considerations of fairness permit.

4. The Meeting Process

Decisions taken by the Commission at meetings are legislative, policy or administrative decisions. The Commission powers exercised at meetings involve making rules, in the form of regulations, or establishing policies, in the form of regulatory documents, which apply generally to the regulated community. The Commission may also deal at its meetings with other administrative or information matters which assist the Commission in fulfilling its mandate. For example, the decision by the Commission to delegate some licensing powers to designated officers (CNSC staff) was taken at a meeting.

The Commission holds public meetings, approximately 7-8 times a year, normally immediately following the close of public hearings. Members of the public will usually observe these proceedings, rather than participate. However, in an effort to increase public participation, the Commission will allow, in the fall 2004, public participation in a mid-term status report on the performance of a licensee, where the public will be allowed to intervene, in writing or orally, in a session to be held in their community. This will be one of the first times that the public is invited to participate orally before the Commission tribunal in a matter other than licensing. The process will be similar to the hearing process explained above.

5. Conclusion

Public participation in Commission proceedings has ensured that the views of persons interested in nuclear energy facilities are heard and factored into the decisions of the Commission. Public proceedings have also served to increase the effectiveness, visibility and credibility of the Commission in its role as watchdog over the use of nuclear energy and materials in Canada.

PUBLIC PARTICIPATION IN THE SITING PROCESS OF NUCLEAR WASTE IN GERMANY

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1. Introduction

Before I give you an update on the latest developments on public participation in the siting process in Germany, let me recall the recent past, in which only the Gorleben salt mine had been explored as a potential site for all types of radioactive waste. With time, accusations were raised against the site's suitability and the salt line in general. Furthermore, the Government was reproached for not having carried out a comprehensive site selection procedure. In the year 1998, the coalition parties decided to investigate additional sites in different host rock formations. Subsequently, the Federal Government made an agreement with the utility companies to interrupt the exploration of the Gorleben salt mine for at least three, but not more than 10 years. The moratorium on Gorleben began in the year 2000.

2. Siting Process

Recommendations by the Committee of Experts

In December 2002, an interdisciplinary pluralistic committee of experts, the committee on a selection procedure for repository sites (the "AkEnd"), which was appointed by the Federal Minister for the Environment, after almost four years of deliberations presented its recommendations for a "comprehensive and systematic approach to a selection of disposal site, including societal criteria and stakeholder involvement." The recommendations were published and presented on a number of international meetings. An English-written brochure on this procedure was handed out to the Radioactive Waste Management Committee of OECD/NEA last year.

Step-by-Step Structure

The starting point of the procedure will be a so called "white map of Germany". For reasons of public acceptance and procedural fairness, the procedure is designed to include the entire territory of Germany. No area will be selected or precluded prior to the start of the procedure. All areas are to be evaluated using the same criteria.

The selection procedure is structured in five steps. In the first step, those areas are identified which meet geo-scientific minimum requirements. In the next step, within the areas at least five partial areas exhibiting particularly favourable conditions for disposal are selected with the help of a weighting process. In the third step, within these partial areas at least three site regions are selected for

surface exploration, based on geo-scientific and mining aspects as well as on analyses of their regional socio-economic potentials. Among the site regions offering the same estimated safety level those are preferred for surface exploration where public support is higher. In the fourth step, the selected site regions are explored from above ground and, based on their results, two sites for underground exploration are determined. In the fifth step, the underground exploration, assessment and comparison of the two sites is carried out. The selection procedure is terminated with the choice and decision on one site. Subsequently, a licensing procedure for the disposal facility at this site has to be performed.

3. Public Participation

All three stages of the site selection procedure, the stage of development, the stage of implementation and the stage of application are characterized by strong elements of public participation.

Stage of Development

The participation of the public from the very beginning of the development had top priority. Three big annual workshops served as platforms to present and critically discuss the procedure with the public and stakeholders. The workshops also served as input for constructive ideas on the procedure from the participants. The workshops received extensive media coverage.

A big emphasis was put also on regular talks with members of state parliaments from different political parties with good results.

Stage of Implementation

The stage of implementation of the site selection procedure, which has not started yet, we envision a wide scope of public participation that may be applied on a national level… for example a public workshop on which BMU presents the procedure it wants to implement. This workshop could initialize a year of consultations during which the public may deliver its suggestions. In a second, closing workshop, one year later, the results of the consultations could be presented.

Conceivable also are so-called “Evening Sessions” organized by the BMU with members of parliament, representatives of communities, unions, industry, stakeholders in order to win support by multipliers. Equally important would be an exchange of information and discussions with the Länder authorities.

An internet platform featuring moderated dialogs and consensus conferences in various locations represent other potential powerful instruments of public confidence building.

On an international level it could be very useful to have a peer review of the implementation plans by OECD/NEA. In addition, international meetings may contribute to public participation on an international level such as the Forum on Stakeholder Confidence and the Meeting of Advisory Bodies to the Government both under the auspices of OECD/NEA, and last not least, the European Community Waste Management Project (CoWam), which is scheduled for Germany this year. The siting process and public participation were presented to the International Conference on Radioactive Waste Disposal (DisTec) in Berlin, to OECD/NEA-RWMC in Paris and to EurRadWaste in Luxemburg.

Stage of Application

The site selection procedure itself comprises a number of integral elements of public participation, including

- an independent information platform to serve information needs of the general public;
- citizen's forum supported by competent experts;
- public supervision through a control institution that monitors the work of the applicant;
- public votes on site exploration activities;
- as an outreach scheme for involved regions: The preparation of regional development concepts to offer a perspective compensation instead of short-term financial compensation;
- all measures of public participation are to be financed by the waste producers;
- criteria, which have been determined by the public in advance, will be used to evaluate site exploration results.

4. Implications for the Regulator

After implementation in the present form, one of the major implications of the selection procedure will be that the disposal task will no longer be a Federal task. The idea is to remove it from everyday life of the political business, and to gain independence from changing political constellations and majorities, thus putting the business of disposal on a steadier track. Another very important reason is to lay down the double role of being a regulator and an operator at the same time. This double role found little acceptance and it was always very difficult to communicate it to the public.

5. Polluter Pays Principle

We want to strengthen the "polluter pays principle" and transfer the disposal task to the waste producers. The waste producers in turn form an association that

- carries out the site selection procedure;
- proposes the final site;
- applies for the license;
- operates and closes the repository , and
- draws the fees from its members.

The above mentioned independent control institution assures compliance of the waste producers association with procedural rules. An appointed independent decision-making body acts as an arbitrator in case of dispute between waste producers association and control institution.

6. Legal Aspects

With respect to planned legislation, the legal implementation of the selection procedure in the current legislative period is planned including fixing detailed features such as

- five-step selection process and objectives of each step;
- the geo-scientific and socio-scientific criteria; and
- the measures of public participation.

Furthermore, during application of the procedure, a law on the two sites identified for underground exploration in step four is planned, as well as a law on the final site at end of step five. Subsequently, the licensing procedure for the repository site will be carried out with the Federal Office for Radiation Protection being the licensing authority.

7. Outlook

I like to point out, that a number of aspects presented in this paper represent the content of a proposal on the siting process and the elements of public participation. After approval of this proposal by the Federal Environmental Minister, deliberations within the Federal Government are expected to begin. The waste producers have publicly voiced some opposition to the plans. It is the objective of the BMU to complete the legal implementation by the year 2006, and to begin the site selection procedure in the same year. The start of repository operations is scheduled approximately for the year 2030.

RESPONDING TO SENSITIVE SITUATIONS

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As we know all too well, building, measuring and improving public confidence is a monumental and necessary challenge. Yet it is one we need to welcome and embrace. Responding to "sensitive situations" is a major and demanding component of our challenge as regulators.

When can sensitive situations occur?

Sensitive situations most frequently occur when members of the public, local and state officials, public interest groups or other key stakeholders feel afraid or threatened by an issue. For the NRC, recent examples include the reactor vessel head problem at Davis-Besse in Ohio or expanded power uprates, such as the one proposed for the Vermont Yankee facility, as well as security at all plants, especially Indian Point 2.

However, no matter the subject of the sensitive situation, regulators must respond constructively, openly and with empathy.

Why the emotion?

To respond in such a way requires that we understand the emotion behind the issue – the sources of public anger. These can include fear, the perception of an individual threat or a threat to one's family, or simply frustration. Such frustration stems from feeling powerless, disrespected or ignored. We must recognize that stakeholders have a different concept or definition of risk than regulators. To them, risk translates into hazards and outrage. Hazards are the technical risks that we're familiar with and outrage is the emotional aspects of their concerns. And let's face it, nuclear reactors have a tendency to provoke a high level of outrage.

When responding to questions about sensitive issues, such as "How could the NRC allow Davis-Besse to happen?", it is critical that our answers always be truthful. The effectiveness of our message and credibility depends on how the audience perceives us.

In most instances, the public's perception of your message and credibility can be improved by understanding what to do and what not to do.

What to do

Whether at a public meeting, a conference or a session with the editorial board of a local newspaper, there are several steps to responding to difficult questions. First, it is important that we allow venting. This is a natural and expected reaction to sensitive issues. As regulators, we must next determine the underlying concerns of our angry stakeholders.

Only after we have done so, can we express empathy without coming across as patronizing. By showing concern, we communicate that we understand the anger of our stakeholders. Showing empathy is not agreeing, it's showing that we understand. When confronted by a hostile group, it is important to understand the sources behind the anger and to think of the last time we were angry over an issue. Additionally, we need to remain calm, demonstrate a willingness to listen to grievances, apologize when necessary and acknowledge past mistakes or oversights.

Next, I believe we should use messages to deliver conclusions supported by facts. In most cases, two or three supporting facts will effectively communicate your conclusion. While not always a panacea, the use of facts usually tends to calm down agitated stakeholders and allow for a productive discussion of sensitive issues. Repeating conclusions verbatim enhances stakeholder understanding and eliminates any lingering discrepancies.

Finally, in the emotional atmosphere of a sensitive situation, we must provide future action. We should inform our stakeholders of our plans to resolve the issue. The public wants to know the regulator is committed long-term, complete with the resources and wherewithal to solve the problem.

All of these things can occur only if we prepare properly for angry stakeholder feedback and anticipate circumstances. This is especially true in a question and answer format. By meeting beforehand with local officials, interveners and public interest groups to determine their positions, we gain an accurate handle on issues and the mood of the public.

What not to do

Sensitive situations are most likely to arise at controversial public meetings. It is paramount that we not lay blame, point fingers or become frustrated.

In the vast majority of these situations, regulators would be wise to use a facilitator to lessen hostility, help build trust and establish a sense of objectivity. Facilitators help avoid emotional outbursts, assist in meeting planning, keep meetings focused and on track, clarify questions and acknowledge emotions. In short, a facilitator captures "the feel" of the room, stating problems in constructive ways.

Conclusion

In sum, I believe it is important that we as regulators welcome and embrace the challenges of responding to "sensitive situations". It's an integral part of building, measuring and improving public confidence.

However, public confidence does not come easily. It can only result by dissolving fear and anger. It can only result by building trust, openness, a willingness to listen to grievances, apologizing when necessary and showing we have a solution to go forward. And it can only come about through a keen understanding of stakeholder needs and showing empathy.

WHAT INVOLVING A PUBLIC INVOLVES

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The will of involving the public in the activity of the nuclear regulatory bodies results undoubtedly from a contemporary idea of citizenship, which aims at involving increasingly the "civil society" in the collective decision and regulation making processes. In modern democratic societies, this trend leads to a growing atomization of the power. The power is no more centralized into one place but is spread over numerous spheres where decision makers are disparate and sometimes nebulous actors. Although this model of participative democracy can seem attractive to some people, a question immediately comes to mind: who is really involved in it? Which sections of the population combine the intellectual and material capacities which enable them to take an active part in this new model? Paradoxically, indeed, the dual nature of the society increases constantly. The gap is widening between the well-off and the rest. And an increasing part of the population runs the risk of becoming the resigned spectator of a world that it does, objectively, not control anymore.

Before further developing this theme, I propose a short and exotic digression… In "Tristes tropiques", Claude Lévi-Strauss describes the village of Kejara in 1936 where the chief of all the Bororo of Rio Vermelho lives. The village is divided in two exogamous groups of siblings subdivided into several clans. These are interconnected by a number of rights and obligations. Each has the exclusive ownership on names, emblems, songs, dances, techniques, materials... As a result, this creates a hierarchy of rich and poor clans: Bororo "in" on the one hand, and Bororo "out" on the other hand. So the Bororo who are most implicated in the urgent business of the Bororo high-society are those with the most beautiful bows and feathers!

The short-cut can seem weird, not to say hazardous, but there is something in common between the implication of the average Bororo in the state-of-the-art activities of his village and the implication of the ordinary population in the activities of a nuclear control and regulatory body. In either case, different social categories and cultural competencies are brought together, whereas they normally do not have any contact with each other within the framework of the concerned activity. The implication of a social group in the activity of another one – a fortiori in a high-tech sector – crystallises some latent processes occurring in social power relationships. Therefore, it has something to do with the processes whereby social inequalities are reproduced or transformed.

Some pre-existing social conditions are required to get involved in any form of the social life: a motivation to go into partnership, a common interest, and a place for the social acknowledgement of these motivation and interest. Though, this is not enough: it is also necessary to have a more or less conscious idea of the identity of the group that is formed and to share more or less consciously the same ways of thinking and acting. In other words: on the one hand, a place where social concerns are at stake; on the other hand, a set of acquired, cognitive and practical dispositions in common. Pierre

Bourdieu calls the former a "field" and the latter a "habitus". So the social space is composed of different fields corresponding to particular habitus. The nuclear safety authority constitutes a sort of field, the public another one. The safety authority and the public are both characterized by different habitus.

Therefore, it is problematic to involve a social group in the activity of a nuclear regulatory body. The more distant the fields of each other are from one another, the less compatible the respective habitus of each other. How to involve for example, the social drop-out, the outcasts and the destitute of all types in our radiological concerns? How to involve in an action and information campaign on radon in dwellings the increasing number of people that do not live in a decent house and whose daily concern consists in ensuring the subsistence of their family? Are the underprivileged social classes, and even the working class, willing to take an interest in the atom? Are long-term unemployed workers, professional football players or specialists in Middle-Age French literature, for example, suddenly going to focus their attention on how nuclear applications are regulated and controlled?

Naturally, some of these social groups will be perhaps involved in a local public debate concerning a nuclear or radiological facilities siting project – provided they are represented efficiently. Of course, the NIMBY effect is often mobilizing, but it does certainly not mobilize equally every section of the population. Getting involved in a public debate, expressing an opinion in a public inquiry, defending an idea, persuading, convincing, negotiating, exploiting the opponent's weakness, etc. is neither insignificant, nor socially neutral. Moreover, according to the place where it is made, the choice between a risk and a job is also governed by criteria of necessity.

Besides the social conditions of the existence, the potential social and cultural distance between several fields and the incompatibility of some habitus, other difficulties also arise. "Distinction" is a sociological characteristic of the fields. As the fields are driven by divergent interests, there are power struggles, and even sometimes antagonistic relationship between them. So they tend to distinguish from one another by mutual exclusion strategies, which, incidentally, are not always consciously orchestrated. A concrete example in direct relation to the nuclear regulatory bodies is the issue of the relationships between experts and lay people. The expert field and the lay field – respectively called "scholastic" and "extra-scholastic" in jargon – are different because of a mutually exclusive social definition: it is not possible to be in both fields at the same time. It is exactly the same sort of social divide as between master and disciples, teacher and students, adults and children… As it represents a well-established form of power, this kind of authority relationship can generate resistance, more or less severe according to the case. Now, is it necessary to remind that every expert is, by definition, "authorized"?

The above-mentioned difficulties prove that the public's implication in the activities of the nuclear safety authorities goes, in reality, hand in hand with fundamental social problems, though it is far from a given. And yet, we made so far only reference to normal radiological situations. What if a serious nuclear accident should occur? In this case, involving the populations is not only a question of ethics or democracy: it is above all a question of safeguarding human lives. Not involving the disaster victims would be disastrous. Indeed, communicating radioprotection recommendations is, unfortunately, not sufficient. It must be ensured that the disaster victims adopt the suitable behaviors. It is essential to gain and keep their trust. Mass movements, spontaneous evacuations and collective panic movements must be avoided. It is important to come up to the actual concerns and expectations of the population – that may be sometimes very different from those of the experts and decision makers. The psychosocial aspect must be dealt with – some sociologists name this "outrage". It is also important to give guidance and assistance to the population after crises. Durkheim's theory predicts that the number of anomic suicides increases significantly among social transplanted populations. How many suicides of this type among displaced native populations since the Chernobyl disaster?

And, above all, what can be done to avoid them? It seems obvious that it is simply impossible to deal with crises and post-crisis situations without involving effectively the population.

What can the nuclear safety authority do? Naturally, I have not the answer. And there is probably no miracle solution. However, opening a multidisciplinary in-depth consultation between us – the responsible and/or experts of the nuclear regulatory and safety bodies – could possibly provide some light on the matter. It also seems to me – and I am absolutely sure that I am not the only one to believe so – that "decompartmentalizing" our respective "scholastic" disciplines could be beneficial. I'd like by no means end on a moralistic note, quite the contrary, but it sometimes happens that we only see the world through our own scientific culture (doctor's culture, engineer's culture…). It is human, it is intellectually comfortable, but it is also a very limited point of view on what we deem to be the reality… In fact, the first step to involve the others is perhaps to meet and get to know them.

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CONCLUDING SESSION:

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Chair: Jukka Laaksonen (STUK)

Co-Chair: Javier Reig (NEA)

Linda Keen (CSNC)

Bill Borchardt (USNRC)

Dana Drabova (SUJB)

Alain Schmitt (ASN)

Ole Harbitz (NRPA)

Kazuo Sato (NSRA)

A summary for each session was presented by each panel member. A synopsis is offered as follows:

SUMMARY OF SESSION 1: HOW MUCH DOES A REGULATOR HAVE TO COMMUNICATE, HOW AND WHEN?

- Challenges in communications can be directly due to the structure and politics of government at different levels.

- A basic tenet is that journalists are different from the regulator and the industry. They may have a basic suspicion of technology and those who use it.

- Two golden rules when communicating with the media: Always give them too much information and never miss a deadline.

- Be true to the three basics of communication: Message - what you say. Myself - how you say it. Media – who you are talking to. Also, repetition can be an effective tool to stress the message that you are trying to convey.

- Unfortunately, times change, the limits of full disclosure of information to the general public can be adversely affected by the actions of a few. Currently, the challenge in communications is the delivering the message of adequate level of safety and security without being able to discuss in detail why.

- On emerging issues like risk of aircraft strikes after 9/11. Through a timely analysis and release of information, it makes easier to satisfy the needs of the public as evidenced by the short time span that this issue appeared in the media.

- Implementation of a commitments document (with the help of consultant analyses, adoption of the European Foundation for Quality management and its own soon to be effective FOI regulation and others) with those that it serves, is a challenging and effective way for improvement.

SUMMARY OF SESSION 2: PRACTICES IN COMMUNICATING TECHNICAL ISSUES TO THE GENERAL PUBLIC

- Basic goal for the regulator is to protect the public and communication is a must to fully achieve this goal.

- Regulator should become the prime source of information to the public and the media, regulator should base its actions upon values of competence, independence, transparency and stringency.

- Set up of a Information and Communication Policy will help for consistency and efficiency. Policy will include setting goals, strategies, organisational aspects, procedures, and tools. Practices should be developed in accordance with local culture.

- Challenges will consider transparency, public involvement and consultation with the stakeholders.

Practices will include in general:

- Interactions with the media like press releases, news conferences, media workshops. Printed materials from plant periodical status reports, to periodical and annual reports and specific reports. Audio-visual materials. Use of radio and TV. Web site and electronic mail.

- Method chosen depends on the targeted audience and the relevance of the topic.

- Messages should be clearly understandable. Do not dehumanise the message by making it technically unintelligible.

- Two excellent examples presented. How local culture and social characteristics were taken into account in designing and implementing plans is key for success.

- Municipalities are to be considered as frontline stakeholders.

- Communicators' role is relevant to meet regulatory needs. Good collaboration between communicators and technical staff produces benefits for the nuclear regulator and the public.

SUMMARY OF SESSION 3: HOW DO REGULATORS MEASURE PUBLIC CONFIDENCE?

- There are some important elements of confidence: visibility, satisfaction, credibility and reputation. The latter can consist of trust, positive image and knowledge of the role the organisation plays. A good reputation is hard to achieve but easy to lose.

- There is a need to define what public confidence is and what to measure. The difficulty is that confidence is a matter of perception of the public, so what we try to measure is the perception.

- It is controversial how to take into account the results of confidence measurement because of the influence of the context. It is not an exact science, results should be examined cautiously and surveys should be conducted frequently, at least every two years.

- Different experiences were explained:

  - Quantitative surveys – among the general public or more specific groups like the media;

  - Qualitative research – with test groups and small panels;

  - Semi-quantitative studies – among stakeholders who have regular contracts with the regulatory body.

- It is not clear if the results should be shared with the public or just with other authorities and governmental organisations.

- Efforts are needed to increase visibility, which is a prerequisite for confidence.

- A practical example of organising an emergency exercise and an information campaign without taking into account the real concerns of the people was given to show how public confidence can be decreased.

- We learned about a new method – the so-called sociodrama – which addresses another issue also connected to confidence – the notion of understanding between stakeholders around a nuclear site. It is another way of looking at confidence in a more restricted group.

SUMMARY OF SESSION 4: WHAT ARE EFFECTIVE TECHNIQUES FOR IMPROVING PUBLIC CONFIDENCE OR RESTORING LOST CONFIDENCE?

The following list contains thoughts related to restoring lost confidence:

- hard, long lasting event;
- strategy: maximum transparency;
- to listen, be open, give phone numbers etc.
- ways to rebuild trust: frequent communication, being there, open and transparent;
- don't be too defensive; if things could be done better, say it;
- technical staff and public affair staff together from the beginning – answer all questions;
- classifications, actions, instructions that differ much from the earlier ones must be well explained and motivated – and still cause a lot of problems;
- things may turn out to be political;
- communicative work in an early stage saves work later;
- communication experts must be working shoulder to shoulder with other staff;

On handling emergencies in general, some recipes like:

- better to over react than to under react;
- do not avoid extreme actions: hit hard, hit fast;
- base your decisions in strict principles;
- first principle: public safety first;
- when you are realising plant A, you must have a plant B in your pocket;
- be transparent – from the beginning;
- crisis communication: early, frequent etc

- people need to see political leaders, someone who is making decisions – technical experts are needed but are not enough;

On how to involve stakeholders and the public in decision making.

- new kind of thinking – demanding for a organisation;

- go to local level, meet local people, speak language people understand, you have to start from the very beginning – introducing yourself tell who you are and why you are there.

SUMMARY OF SESSION 5: HOW DOES THE REGULATOR EFFECTIVELY INVOLVE THE PUBLIC IN ITS ACTIVITIES?

As a variety of viewpoints and subjects were given in the different resentations. The following is a summary:

- Regulator's commitments regarding public participation and experience gained in terms of effectiveness, visibility and credibility. The way the public hearings/meetings are organised and how they are used in the regulatory process.

- How public participation is expected to be in the frame of the new proposed site selection procedure for radioactive waste disposal facility. This new process expects stakeholder involvement from the very beginning, even during the development of the site selection procedure itself, consisting of steps very precisely structured.

- Regulator's experience on responding to sensitive or "high emotional" situations reminding the three main key-principles : (1) preparation to have an opportunity to have success; (2) always being honest, even during an "emergency"; (3) start by understanding correctly the issue.

- On how to speak about radioactivity to schoolchildren in the frame of an issue of a specific newspaper dedicated for children (8-12 years). Additional local actions in schools were also mentioned.

In conclusion, the so-called "public" in different countries may have somewhat different characteristics. It is important to understand very correctly what sort of public we are confronting. In involving the public in nuclear regulator activities it is essential to follow the following golden rule "to involve someone, the first thing to do is to meet and get to know him". This golden rule should be kept in mind, especially in such activities of public involvement.

CNRA Chairman concluding remarks

A general observation from the presentations and discussions was that cultural differences between the countries are large, and similar means for communication are not effective in all countries. Some approaches presented in the workshop might not even be possible in other cultures.

It was also clear that in some countries the regulators can achieve public confidence more easily than in the others. An important factor is the general trust on the public government and its representatives.

However, a number of common principles were identified that can be recommended to all regulators. Among these are the following:

- Give high priority to building and maintaining the public confidence. Confidence among all stakeholders is a necessary prerequisite for successful nuclear regulation.
  - Credible licensing decisions are not possible without trust of the stakeholders. Lack of confidence may result in heavy economic losses to the entire society, as shown for instance the TEPCO case in Japan.
  - Proper management of an emergency would require that the regulator is regarded as a reliable source of information and guidance, trust needs to be built in advance during normal operation.
- Use any available means to make yourself well known: if you are not known, there cannot be a confidence in you.
  - This statement was made by several speakers, among others Mr. James Young, Commissioner of Public Safety of Ontario (general public associates his face with all kind of emergencies that have occurred in Ontario);
  - Being well known requires engagement with the news media on a continuous basis;
  - Few ideas were presented on means that could be used; regulators with a wide scope of responsibilities have better possibilities to "make news" of their field and their actions.
- Issue a news release promptly and be out in front of the public whenever information need arises.
  - It is better to overreact than to under react;
  - It is better to give too much information than too little (this was emphasised, among others, by the journalist Peter Calamai from Toronto Star).
- Put yourself at the level of your audience.
  - Wear clothes that are not much different from the clothes of your audience;
  - Speak similar language with your audience – speak as you speak with your personal friends on matters of common interest;

- Be easy to approach, try to answer all questions presented to you;

- Be available when requested; never be too busy to talk to news media.

- Make experts available to answer the questions.

  - Public expects answers from experts; communication staff is a conduit to experts and not a barrier between experts and the public;

  - Emphasis to internal communication within the regulatory organisation is important to ensure consistent messages;

  - An adequate number of experts and managers who are prepared for public communication are needed in the regulatory organisation to ensure prompt and accurate response to communication needs at any time;

  - Expert knowledge/competence on the topic under discussion, and an ability to express oneself clearly are more important than the position in the management line.

- Have the courage to be honest and transparent from the first moment you start communicating on an issue of general interest, no matter how unpleasant the issue may be.

  - if you demonstrate openness and transparency, even a difficult issue may soon become a non-issue;

  - avoid any signs of secrecy-making unless you can explain why something must remain confidential (e.g., security issues).

- Measure your confidence among stakeholders.

  - "if you don't measure it, you cannot manage it";

  - differentiate the stakeholder groups as needed to take actions towards different groups.

- Stay out of energy policy and keep an adequate distance to the licensees when communicating with the general public and news media.

  - do not associate yourself with the promoters of nuclear energy in the eyes of the public.

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