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SPECIAL CASE STUDIES

YOUNG GENERATION

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Special Case Studies

OUTLINE FOR PIME '98 CONFERENCE

Being Open and Honest - A Hard Pill to Swallow?

Case Study By

Morris Grant
United Kingdom Atomic Energy Authority, Dounreay

In the beginning the UKAEA's Dounreay site was the envy of the world as the first ever large-scale experimental fast reactor, known as the Dounreay Fast Reactor (DFR), became operational in the Highlands of Scotland in 1958. Nuclear scientists from around the globe watched in envy as Dounreay established for itself a reputation for developing the prized new technology.

Newpapers at the time described the reactor, housed in the famous sphere, as the 'Dome of Discovery'. There followed the Dounreay Materials Test Reactor (DMTR) and thereafter the Prototype Fast Reactor which supplied power to the national grid in 1975.

Dounreay could do no wrong. Pioneering research was proving highly successful, there was an air of excitement among the hundreds of young scientists on site, employment was plentiful for those local to the area and there was talk of free electricity for the whole of Caithness.

However, things started to turn sour. The Government of the day had second thoughts about nuclear power and financial cutbacks for Dounreay research were announced. In 1968 the DMTR was closed down. In 1977 DFR suffered the same fate and in 1994 a formal ceremony was held to begin the shutdown of PFR. Instead of being a site of huge scientific significance Dounreay now moved into decommissioning mode - a development which was not well understood.

Slowly the strong commitment to Dounreay shown by the local community started to ebb. There were job losses, money was short, there was concern about leukaemia clusters in the area, radioactive particles which had appearing on the foreshore since 1984 suddenly became of huge public issue, the use of subcontractors on site disaffected UKAEA employees, the privatisation of parts of the business lowered morale on site and the so-called Dounreay Shaft became a very large political football.

Well-organised and well-funded protest groups (of Scottish and international origin) decided that Dounreay was a good target for their activities particularly since foreign spent fuel was being transported to Dounreay site for reprocessing (this commercial business actually helps offset the cost of decommissioning to the taxpayer) raising nuclear waste storage issues. To compound the problems NIREX appeared in Caithness to survey the area as a possible contender for a deep repository.

TURNING THE TIDE

It was recognised that things had reached a very low ebb. A range of PR initiatives had to be put place on the site itself, within the local community, in Scotland as a whole and where necessary to a wider UK and European audience. How employee, public, political and media relations were being handled had to be reassessed.

However, in fighting back Dounreay could not be seen to lower itself to the level of some of its detractors. The UKAEA had to maintain a statesmanlike role in all the issues relating to Dounreay. However, it had to get off the 'back foot'. The statesman had to move up a gear from 'reactive' to 'proactive.

However, this gear change required to be thought through. A powerful base had to be built for it. Strong, positive, believable, new messages had to start going-out from Dounreay. Transparency was required. Such significant changes required backing from the very top of the organisation. Dounreay was given that backing.

It was agreed that 'Open and Honest' would be adopted by management at Dounreay as the phrase to describe the new approach. It was recognised that adopting such a policy could very well be painful. It has been.

SO WHAT DID WE DO?

- Market research was carried-out in Caithness and Sutherland to discover what the local population actually thought about Dounreay. This confirmed that Dounreay management were not trusted.

- Members of the workforce are being given media training to provide Dounreay with a stronger voice and a 'rapid response team'.

- Anyone asking to view the site is given access and local journalists are being regularly briefed.

- Regular briefing papers for stakeholders and in fact, any interested party are made available regularly.

- Strong links have been forged with union representatives through the Communications Department.

- Management and unions now jointly attend all Scottish party political conferences. There is a display of unity.

- Taking the message 'on the road' is encouraged.

- Dialogue between Dounreay and objectors has been established.

WHAT HAVE WE GAINED?

- The Open and Honest policy has assisted in improving media relations.

- To a great extent it has disempowered objectors. The messages are coming from Dounreay management who are seen to be in charge of the site and not through 'leaked documents and secret reports'.

- Visibility in the local community has been increased.

WHAT MORE MUST WE DO?

- We have learned many lessons and are now seeing the benefits, but we must continue to be pro-active.

- We will do this by continuing to build relationships, by ensuring the flow of clear, accurate, timely information, by creating a dialogue with our critiques and by empowering our workforce as ambassadors.

Young Generation

ABSTRACT PIME Presentation
Laure PARISOT

Learning by discovering each other
First Young Generation Project

Following contacts between Young Generation Members in Washington DC (ANS Meeting November 96) and in Paris (November 96) three Young Members organizations decided in February 97 to organize a visit to the nuclear sites of the Federation of Russia in September 97 from St Petersburg to Moscow.

The aim of the three delegations from Finland, Netherlands and France was to set the groundwork for a sound and mutual relationship for the future.

In order to be well prepared for the trip, we organized in June 97 a preparation seminar where experts from France, Finland came to speak about the Russian technology, the Russian culture and their experience with Russian people.

The trip began September the 6th. We went through St Petersburg, Moscow then Obninsk. We visited the Leningrad Power Plant and research institutes.

Two members of the Youth Department of the Russian Nuclear Society were all the time with us. We also met quite a lot of young people in St Petersburg, Moscow and Obninsk. It was a very interesting experience and we are ready for new ones.

Visitor Centers

Head of Public Information Center
OJSC "Mashinostroitelny zavod", Ph.D. S.Gelman

XA04C1353

WORK WITH THE PUBLIC IN AN INDUSTRIAL TOWN
(On the basis of the work of the Public Information Center of OJSC"Mashinostroitelny zavod")

Open joint stock company "Mashinostroitelny zavod" (" MSZ") is the manufacturer of nuclear fuel for 20 NPPs in Russia,CIS countries and Europe; it is situated in 55 km to the east of Moscow in a town called Electrostal that has the population of 150.000 people. "MSZ" is the major enterprise of the town which has some more factories belonging to the chemical, metallurgical and machine-building branches.

The Public Information Center of the factory arranged 6 years ago informs the population of and public of the town of the technological and ecological peculiarities of the nuclear fuel production and forms positive attitude towards both, activities of the enterprise and atomic energy as a whole.

Annually the Center is visited by up to 1.5 thousand people. Mainly these are schoolchildren and students of colleges; this has certain grounds. Understanding that the "pro-nuclear"orientation of the mentality of people should be created during the period when their general outlook is formed the center maintains constant links with all the educational establishments of the town.

Really, each excursion of the students into the Center turns into an open lesson on the main issues of nuclear physics ,energetics and ecology. The Center has sufficient choice of demo materials in favour of the atomic energetics and fuel cycle enterprises performing services for it.These are NPP diagrams, dummy reactors, full-scale dummy fuel rods and fuel assemblies produced by the factory, stands, scientific popular literature, huge video fund including films on nuclear energy . Video films made in the main workshops of the eneterprise and demonstrating high degree of automation of the processes providing for the good quality of nuclear fuel and high level of nuclear and irradiation safety of the production are of the highest interest.

Out of the Center the work with public is carried out in another form,through the factory weekly paper "Energia" (3.5 000 copies) spread around almost free as well as own TV-studio "Pioneer"connected to the town cable TV-network for 2 000 users.

The paper publications and TV broadcastings constantly enlighten on the issues related to the optimization of the technology of the nuclear fuel production, irradiation and nuclear protection means , MC&A and PP of nuclear materials.

All forms of communication with the population use actions traditional for the propaganda of nuclear energetics and put an accent on a number of circumstances specific for the activity of the factory and town life.In particular we stress in oral discussions, newspaper articles and video films the idea that the enterprises of the nuclear fuel cycle have such an complex of general machine-building technologies that allows to establish in a very short term production of items not traditional for the atomic industry in its workshops: domestic appliances and equipment for many industrial branches.This is best proved by the experienxe of OJSC "MSZ". Here for the last five years 17 substituting production processes were arranged the purpose of which was to preserve working places in connection with the reduction of main production amounts. This peculiar conversion allowed to avoid social problems and provide for the work of the young people.For the past 3 years about 2.5 000 of young workers and specialists were taken on.In our publications we pay attention to one more social side of the activities of the factory having stable domestic and foreign market for its main products.The profit gained for the factory products made more than 2 trillion roubles in 1996. Almost 80% of the town budget is formed by the money paid as taxes by the factory.This money is used for the development of the social infrastructure of the whole town in sports,culture, health protection,education and house-holding.

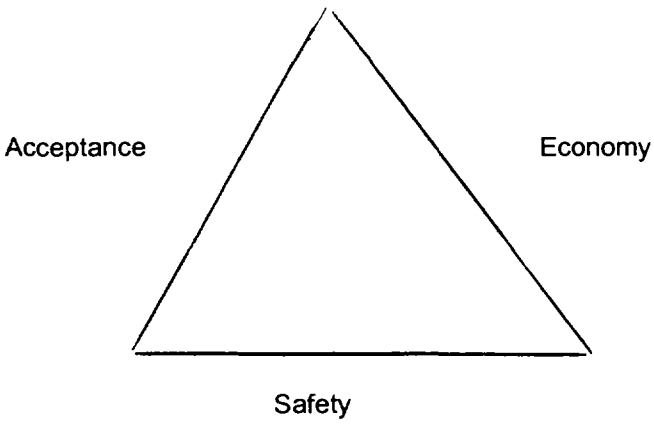
We try to stress that the existance of our enterprise in the town and its successful operation influence not only the welfare of its emplyees but helps to improve that of all the town population.

The results of the social polls held in 1996 show that the best majorityof the town population are positive as to the influence of the OJSC "Mashinostroitelny zavod" on the different fields of the town activities. Our task is to strengthen such confidence in future.

BIKING OUR WAY TO PUBLIC ACCEPTANCE

Doel NPP reorients communication policy

by Corinne Souwer



In these days, the existence of a nuclear power station is no longer entirely evident. Especially in Belgium where operating licence is subject to ten-yearly re-evaluations by the authorities. Therefore, the management has to orient its policy not only towards safety and economic operation , but also to public acceptance. The Doel NPP management therefore makes use of the equilateral triangle here above, as all three sides are equally important. Although economic operation demands great efforts in cost control, new activities are developed in order to enhance public acceptance - which consequently lead to new investments. Top priority in our external communication policy is the environment . This is quite logical, as the environment is also one of the top priorities in the overall management policy. Thus, Doel NPP is working hard in order to obtain the EMAS certificate (Eco Management and Audit Scheme acknowledged by the European Commission) next spring.

External communication is therefore very much oriented towards environmental education projects, which we develop as much as possible in close cooperation with environmental groups . We offer these projects to schools and other public groups by means of a centralized dispatching centre. They include amongst others an eco bicycle tour in the surroundings of the power plant, with information on the typical plant and animal life of the area. We supply well-documented nature brochure and even free bikes to the public.

We have also installed an ecological laboratory, specially developed in cooperation with teachers so as to correspond with the learning programmes of secundary schools. The laboratory is manned by a qualified biology teacher. The examined samples for soil and water research come from our own nature reserve (6ha) located on the site of the power plant.

Another module consists of guided tours in the power plant. Each visitor can take a guided bus tour on site. and take a look at the control room, the turbine hall, the entrance of the nuclear zone, the cooling towers... People who would like more detailed information can take a tour which gives deeper insight in the technical aspects.

We also develop several cooperations with the local and regional authorities' eco-education initiatives in order to combine them with our own projects .

The dispatching centre is also used as an exhibition hall, and is equipped with multimedial interactive communication means; such as an individualized CD-rom on energy, power and nuclear power.

As the modular structure of the different programmes enables a great number of combinations, visitors can choose a programme according to their wishes, interests and available time .

These are some new developments in our communications policy, which the Doel NPP management thinks will largely contribute to public acceptance, essential for the existence of the power plant on the long term.

CASE STUDY

PUBLIC OPINION AND ACCEPTABILITY IN LITHUANIA SWEDISH SUPPORT TO THE VISITORS' CENTRE AT IGNALINA NPP

Summary

PART 1 - Diana Medeliene, Editor-in-Chief, Energy News, Lithuania

Organisation of a survey of public opinion about the energy sector and Ignalina NPP (planned for autumn 1997)

As the visitors' centre receives over 500 visitors per month it could be very interesting to take advantage of this fact and organise a survey of public opinion. First there must be a questionnaire prepared to be filled by visitors to the INPP, people of different sex, age, profession and education, coming from different regions. If needed, the same questionnaire could be spread in the biggest towns of Lithuania and in those parts of the country which are far away from the plant. The objective of the survey is to examine people's opinion about the energy sector and the role and safety of the INPP as well as to find out what they think about the future of the energy sector and nuclear. Another important question is if there is enough information about the INPP and the safety improvements.

The comparison of results can certainly give interesting statistical data and conclusions. On the basis of the results of the survey an action plan can be prepared as part of the Public Information Programme.

Presentation of the questionnaire and results of the survey.

PART 2 - Margareta Alvers, Project Manager, Swedish Intern. Project Nuclear Safety (SiP)

Present situation at the centre and how SiP plans to support the information activities

The visitors'centre was established in 1995 with the financial support from EBRD's Nuclear Safety Account. Sweden was asked for assistance by the INPP a year later and we stepped in when the centre was already well equipped and manned. Still, a lot was missing and together we made a list of priorities.

First of all we ordered high quality ITV-equipment. Cameras were installed in the control room, reactor hall, turbine hall and in waste storage. Through monitors at the centre the visitors can see, in colour, what is going on inside the plant.

Video films for general public were badly needed and SiP contacted a young Lithuanian film producer living in Stockholm. Two films are made: about every day work at the plant and about safety improvements financed within SiP's assistance programme. One of the films will be shown at PIME. At the same time SSI, the Swedish Institute for Radiation Protection, made a committment to support the information centre and ordered a video film about radiation.

We have also engaged a consultant, Mr. Wahlberg, the former Information Manager from OKG. The visitors' centre needs a general strategy for the communication with the public and the exposition needs some improvements and additional investments. SiP will finance the purchase of a multimedia computer and a special software for young visitors will be developed in Lithuania. The four newest employees at the centre do not have so much experience and should get training in how to handle the contacts with the press and how to organize internal information.

After discussions finalizing the first stage of the project we are ready for further committments. SiP has even plans to support the information activities at the regulatory body, VATESI, and we will participate in the project supporting the Emergency Plan for Lithuania, together with the Swedish Radiation Protection Institute and Swedish Authority for Rescue Services. Emergency preparedness is an important task for the visitors´centre and it needs coordination with the regulatory body, the Ministry of Economy and other responsible authorities.

Internet Case Studies

Study in University of Helsinki, Department of Communication

by Pia Kuorikoski

Information Officer, POSIVA OY Finland

XA04C1356

ISSUES MANAGEMENT - Internet in environmental scanning.

A strategic weapon or just another fancy toy? (situation in Finland)

1. Introduction and background

W. Howard Chase, specialist on public relations first invented the concept of issues management in 1976. Chase saw issues management as an ability to understand, mobilize and coordinate all planningfunctions in a company under one target. The target is to adjust the company´s future with the future of public policy. After Chase many researchers have been interested in the concept of issues management as a part of effective public relations.

Environmental scanning and proactivity as parts of the concept of issues management have very important role when working in industries like forest industry or nuclear industry which always provoke discussion and awake feelings of suspicion among citizens and environmental activist groups.

We are living in an ever-expanding information society and are able to get so much information via Internet and other new computerized media that we could easily drown under it. Information around us is expanding in an exponential fashion. American research company called Input has estimated that there will be more than 200 million Internet users in the year 2000. In Finland there are 400 000 weekly users and over 200 000 so called heavy users who surf the net at least twice a week. Managing rising issues and to preventing them when possible is becoming more and more important when turning into the next century. It is easy to have perfect strategic plans in theory but reality is unfortunately often very different from theoretical visions. Reality bites sometimes.

Environmental activists use the Internet´s communication possibilities actively. E-mail, www-pages and different kinds of maillists and discussion forums (usenet) are very cost-efficient and fast ways to spread information all over the world. If the activists use the net why wouldn´t the people who are interested in the activists´actions.

2. Objective of the study

The objective of the study is to find out how different international industrial companies in Finland use the Internet as a tool in the environmental scanning process and in issues management as well. Is Internet used at all in this respect? Prime target is to find an easy way to monitor future developments via Internet and in that sense be able to forecast the future issues and develop the process of issues management. The study is descriptive and its purpose is not to shake walls but realistically describe Internet´s scanning possibilities in everyday life.

3. How was the study carried out?

Communication managers in eight different Finnish companies were interviewed. Main criteria for the selection of company were company´s size, line of business and level of internationality. All the companies work in industries that awake grassroot activists interest from time to time. Three of the them were forest industry companies (others: chemical, food, oil) that are typical Finnish companies which deal with activism in a weekly basis.

Literature about the theme was examined - unfortunately there are no previous studies on the subject so the before-Internet-time-communication-theories were applicated in the framework of Internet.

4. Results in brief

Issues management and environmental scanning are parts of an organisation´s strategic planning. Strategic plans are not available even for academic researchers unless the results of the study are kept secret. The level of the results of this study

is therefore practical and simplistic. This chapter tells briefly some of the results gained from research. It seems that at least big forest companies use Internet a lot but because of the strategic matters involved they did not reveal all their scanning details.

In general it seems that communication managers in Finland don't yet use all the available possibilities that the Internet can offer to the process of environmental scanning. Internet is still quite a new tool. Traditional information gathering techniques are still more appreciated, for instance personal contacts with environmental activists are highly valued and a common way to get information about the future events. The culture of environmental activism in Finland has moved towards quite an open direction recently. Activists can call the companies'information personnel to let them know that they are going to demonstrate in the backyard of a company and invite international press to film the show - the actions are open. There are some militant groups, however, that operate differently and hints about their actions and current discussion are available in the Internet. Possibility to follow realtime discussions was seen as a definate advantage of the new medium.

Most of the interviewed communication managers use Internet daily for getting some specific information about specific topics but this is more library-like use than actual monitoring. No-one denied, though, that it is or at least will be more important to follow the Internet's information supply more systematically in the future.

4.1 Bought services need resources

Big forest industry companies in Finland buy extensive information scanning services that explore also the Internet (deep-sea-surfing- way) as a part of the other available information sources. These services follow the usenet discussion forums as well. The target for monitoring is the whole world because these companies operate around the globe. The scanner company provides an extensive report which names rising issues and hot topics in different parts of the world at least four times a year. This information is reflected to the situation in Finland. Bought services of this magnitude are quite expensive but companies have found them very useful.

Unfortunately these kind of scanning services are perhaps not available for middle size companies due to their high price.

4.2 Usenet groups

It is important to follow the usenet discussion groups at least in Finland that is a "heavy user country" as part of other information sources. Especially environmental discussion groups have often very useful information. Some militant environmental groups send messages about their actions via usenet groups and activate other people to participate. Usenet channels offer proactive information. *Proactive information* is information about future developments and future trends in the long run that help the organisations to act proactively - to act before something actually happens.

It is possible to gather information and get weak signals about items which need proactive response via usenet-groups following. To ease the information flow one can use different kinds of research engines to gather information for oneself. One can tell the engine a keyword and the engine searches all messages written about the topic for at least a two-month-period of time. These are especially helpful for proactive information needs and long-term trend monitoring.

Following engines are easy to use:
* DejaNews (http://www.dejanews.com./)
*Reference.com (http://www.reference.com/)
* Tile.net (http://www.tile.net/)

Just to mention: for instance in September about one third of the all environmental discussion forums´ topics concerned nuclear energy or alternative energy forms.

4.3 News in the net

Internet offers good supply of realtime news (for example CNN). Some news services offer the possibility to personalize a news page especially for your needs. You can for instance follow only sport news or only news about economy. Today the news via net is used by interviewed communication managers only as one

additional part of news flow following. How the process develops in the future remains to be seen.

5. Internet as part of Posiva´s interest group communication

To be able to offer information to the important publics of the organisation is an important part of issues management and issues communication.
As a communication channel Internet has following advantages:

- cost-effectiveness, savings in a cost of publications
- time -efficiency: more profitable use of time
- universal usage
- possibility to two-way online communication, feedback is instant

Posiva Oy as a company working in nuclear waste management has very different kinds of publics to communicate with. Via Internet different publics could be reached and information produced to meet publics´ specific needs.

Posiva has therefore developed an Internet communication strategy to be able to target messages to different publics´ needs. One important group which needs detailed and well-updated information are Finnish decisionmakers. An extensive information package will be produced to them in order to serv their needs.

In Internet an actual network can be created. Posiva´ s ambitious goal is to create a kind of a specialist rim network so that interested publics could direct their questions directly to the people who have the needed knowledge to answer the questions. This would really add value to other communication affairs and actualize the meaning of two-way communication.

6. Something to add (but in smaller fontsize)

After writing a couple of pages in praise of Internet I feel that I could and should mention some of the problems of the net. There is still quite restricted access to the Internet: for instance only between 1.3%-1.6% of Spaniards have access to the Internet (1996), the speed of telephone lines and the velocity of modems influence communication, there are still some

problems with security (such as password access), if the updating possibility will be taken care of effciently the labour for doing this is newer complete.

Public Opinion and Acceptance

Evaluating nuclear communications

Nigel Middlemiss, CARMA International

Information is power, and no-one is more powerful than the media in affecting and reflecting attitudes and opinion. The media influences the way people vote, buy and think, not least those who are the nuclear industry's stakeholders. Capturing the impact of the media is essential if management and communicators in the nuclear business are to measure their performance, consider their options and plan for the future.

Multiple studies have shown a strong correlation between what the media reports and what the public believes. For years market researchers have understood this important correlation. They have tried to analyse individual stories from clipping services, but found it slow and incomplete. Until recently the principal way of measuring public perception and media impact was by polling individuals in labour-intensive and expensive opinion surveys, focus groups and depth interviews.

Today, with sophisticated computer programmes, a new way to measure trends in media coverage and therefore public opinion has been developed – one that gives faster, and more complete, research intelligence. By analysing hundreds, or even thousands of news and opinion pieces, and by putting them into a meaningful context, a wealth of information can be gained for tactical and strategic purposes. The cumulative effect of taking a snapshot of perceptions and then overlaying information over time makes it even more powerful. Trends can be identified, and opportunities for improvements in communications strategy determined.

Examples will be given of the effective use of media analysis in the nuclear and environmental arenas, where organisations and their communicators face particularly strong challenges, including hostile campaigning by pressure groups, e.g.:

- how die-out of an issue for the European paper industry followed introduction of a Producer Responsibility campaign.

- how nuclear industry items moved up and down the media agenda in the context of opening a major new plant, and how messages on nuclear safety, economics, waste and exports were accepted and rejected by the media.

- how large the payback can be from proactive – not just reactive - media work, as evidenced in an analysis for an industrial group involved in North Sea oil plant decommissioning .

A demonstration will be given showing the parameters that can be measured by media analysis and presented through charts, tables and other graphical means: totals of media "impressions", favourability ratings for companies and industries, leading issues, leading publications or TV/radio programmes, leading sources of information or opinion quoted in the media, successful and unsuccessful corporate messages, and leading "bylines".

Current Opinions and Countermeasures for Acceptance of Nuclear Energy

Duk-Jee Kim
Vice president
OKAEA

It is said that Korea has made great strides in nuclear power plant development. Since the commencement of operation of the first nuclear power plant in 1978, eleven units have been in operation with seven units under construction as of mid-1997. Nevertherless the high growth rate of electricity demand requires more units of reactors. Based on the projection considering more than 10% increase of electricity demand 17 nuclear power plants are to be operated newly by the year of 2010.

In regard to public opinion in Korea, it seems that the recognition of the lack of indigenous energy supplies is wide-spread and there is a general agreement that nuclear energy is not only necessary at presence but also it will be increased in importance as an energy source for Korea.

In spite of that we are faced with the difficulties in obtaining the new sites for reactors, besides additional reactors on the existing sites. It is sure that the enhancement of the public understanding might be a prerequisite for implementing the long-term plans ensuring the electricity supplies. Organization for Atomic Energy Awreness(OKAEA) is assigned to a task for the study and activities orientating the public to unbiased attitude on nuclear energy.

The recent polls reported to show a large majority think that it is necessary to use nuclear energy in Korea, which shows a high degree of consensus that they are approving the use of it.

However, opponents are more than those who would accept building the plants nearby their residential areas. There has been some difference between perception of favorability on nuclear energy and attitude in acceptance of the related facilities.

The major concern of us is how to convince the public to recognize the energy situation as we stand in. In this regard we are judging our efforts have resulted in general agreement of the public in using nuclear energy. But there also exists not a little opposition, mainly for the anxiety on hazards of radiation and socio-economic disadvantages in their community due to sites for the plants.

We would like to emphasize that nuclear energy plays a role of our greatest contributor to lower emissions of greenhouse gases and air pollutants. And also it is required to create an atmosphere of coexistence and coprosperity with regional communities more effectively. According to the results from the polls, OKAEA has taken a various kinds of countermeasures for the public.

The detailed information on this matter will be delivered at '98 PIME meeting.

ENS.PIME 1998

XA04C1359

PUBLIC OPINION RESEARCH IN FRANCE : A NEW APPROACH THROUGH PEOPLE'S VALUES UNDERSTANDING

by France Brès-Tutino / Jean-Pierre Pagès (CEA, Paris)
Laurent Léger (Cogéma)

- Understanding public opinion, its major trends and mechanisms, is essential for refining the communication strategies and enhancing their impact on key-audiences.

- Since the mid-seventies, French researchers have underway periodical opinion polls on a nation-wide basis, on behalf of the nuclear research and industry.

Methods and tools have become progressively more and more sophisticated to be adjusted to the evolving socio-cultural background.

Nuclear energy perception by the public has not only technical aspects but is also relevant to public debate and related to people's values. The developed countries and affluent societies, have been showing, in particular, a shift towards post-materialist values. Some of these values and needs : environment protection, quality of life, involvement in decision-making process (government, corporates) must be taken into account when analysing public opinion towards nuclear energy.

That is the reason why since 1992, a yearly nuclear barometer survey has been run, jointly, by the main corporations involved in nuclear research and industry : CEA, the French Atomic Energy Commission, COGEMA, EDF and FRAMATOME.
This barometer includes not only quantitative indicators but also, several series of questions on public attitude towards risk perception, controversial issues discussed in the media, potential energy sources for the future, politicians credibility etc.
In addition, a very detailed public segmentation allows researchers to analyse similarities and differences related to age, gender, level of education of the population.

This paper intends to give some concrete examples and current results on French public attitude towards nuclear energy and on the relation between social values and support for nuclear power.

The text will be distributed at the PIME 98 Conference

International Public Opinion: a project to provide an overview and comparisons between countries

Tim Meadley, The Uranium Institute
and
Louise Haskins, BNFL
(Chairman of the Institute's Public Opinion Polling group)

During 1995, Laurent Leger, a Visiting Research Officer seconded to the Uranium Institute by Cogema, undertook a comparison of public opinion polls from different countries in an attempt to obtain an overview of public opinion towards nuclear energy on an international scale. He found that such a comparison was very difficult due to subtle differences in questions that appeared similar. In his report[1] on his work he concluded:

> 'It has been found that it is hard to compare opinion polls that have not been designed for this purpose. ... It is clear that better comparisons of public opinion internationally could be made, but it may well be that in order to do so it will be necessary to collect data specifically for this purpose.'

The Institute's Committee on Nuclear Energy and the Public, after receiving the report and discussing its contents, concluded that it would be useful to endeavour to obtain an international overview of public opinion regarding the nuclear option and to facilitate comparisons between different countries. Three methods of achieving this were considered:

- an international public opinion survey could be undertaken,
- those wishing to obtain comparisons could ask questions in their country that had already been asked elsewhere, or
- a set of standard questions could be developed to be used in public opinion surveys.

The last of these options was selected and a working group was formed to develop a series of questions. These have now been included in public opinion polls in three countries: the UK, France and Canada. Some results of the comparison of the responses from these surveys will be available for presentation at PIME '98.

Organisations in several countries have committed to participating in this project, and a number of others are considering doing so. Full results and access to the data for more detailed study are only available to those who participate.

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[1] *Public Opinion Concerning Nuclear Energy, an international comparison 1995*

PIME 1998 CASE STUDY - SUMMARY:

Interim Nuclear Spent Fuel Storage Facility - From complete refusal to public acceptance

Michal Kačena, ČEZ, a. s. (the Czech Power Company)

As usual in P.R., there was a complicated, politically sensitive situation we had to face at the beginning and it wasn't easy to create the right P.R. programme with the right targets:

CEZ needed a new storage facility for the nuclear spent fuel from its two NPPs - Dukovany and Temelin. Firstly, CEZ preferred to build an on-site facility for the Dukovany NPP to last until the year 2004; secondly, a facility for the Temelin NPP several years later. But the Czech government decided to limit Dukovany's storage capacity during a public discussion in 1992. Therefore, at the end of 1993, CEZ started the site selection process for a central storage facility targeted at ten regions in the country.

In P.R. we decided on two main goals:

1. To gain public acceptance of a central storage facility at least at one site, and hopefully at more.
2. To change public opinion (especially around the Dukovany NPP) in order to create the proper atmosphere for changing the government's decision to limit storage capacity. We wanted to prove that we could choose the right technical and economical solution without political limits. This obviously presented a challenge as it would be problematic for CEZ to be very visible in the campaign: We wanted people to know that the government had made a bad decision, but we also had to make it clear that our objections were based not on questions of momentary corporate advantage but instead on solid technical grounds. Most would only see self.interest. We wanted to show them the facts. Of course, some times it wasn't easy to hit both targets at the same time.

There was a lot of hard work in the middle. We gained new experience and we learned a lot trying to get public confidence in nuclear safety, in our company's reliability and in some local profits for a storage site:

Firstly none of those regions was excited by the idea of a storage facility in its backyard. Most of them were very strongly and actively against it and did not want to discuss anything. Step by step we realized a four year P.R. programme which included, for example, intensive discussions with people and their representatives in potential host regions, work with journalists, issuing information materials, organising information trips to nuclear facilities abroad , sponsorship programmes, mobile exhibition and other activities. After such a long and difficult process, we feel that we are able to show others what we have done, what we have learned and what the results were.

There were some good results in the end. We hit both of our main P.R. targets and maybe even a bit more:

1. We found a site, where the central storage is accepted by local representatives and where even most of them would welcome it.
2. The current Czech government changed the old decision to limit storage capacity at Dukovany NPP and recommended building two storage facilities at NPP's sites. The possibility of a central storage facility is being held in reserve.
3. Local representatives at both NPP sites are not refusing to discuss a new storage facility and are able to accept it.

As usual in P.R., our work never ends. New targets have to be defined, new activities have to start:

The whole site selection process has not been finished yet. Public hearings for both a central and the Dukovany NPP storage facilities will start next year. We expect to get a construction permit for the Dukovany site in three or four years. Then we intend to start the same at the Temelin site. But you probably know that never-ending P.R. story...

MASS MEDIA COVERAGE OF THE CHANGES IN THE ENVIRONMENT OF ELECTRICITY PRODUCTION IN SPAIN

Santiago San Antonio, Spanish Nuclear Industry Forum

SUMMARY OF THE PIME 98 CONFERENCE

The Spanish Nuclear Industry Forum, created in 1962, brings together those Spanish companies which are involved in the peaceful use of nuclear energy, looking after the integration and coordination of their interests within a framework of the highest levels of safety and reliability in the operation of the country's nuclear power plants.

One of the Forum's main objectives is to coordinate activities with a view to providing and sharing information and to bringing about the joining of forces for achievement of the goals of the industry involved in the peaceful use of nuclear energy as a sector, as well as to providing public opinion with objective and timely information on the reality of this sector.

Another of the areas in which the Forum is heavily involved is training. It is essential that education and training in nuclear energy-related matters be promoted.

In addition, the Forum's work includes acting as a point of connection for the nuclear industry, promoting the sector's position in relation to national and international legislative proposals.

All the main Spanish companies involved in the peaceful use of nuclear energy are represented in the Forum. The members are divided into five groups:

- Electricity Utilities
- Nuclear Power Plants
- Nuclear and Radioactive Installations operating companies, component manufacturers and the suppliers of nuclear systems.
- Engineering and Nuclear and Radiological Services Companies, nuclear technology development organisations and Civil Works and Erection companies.
- Public and private associations and organisations.

The subject matter analysed in this paper is the **Electricity sector bill** passed on 13th November 1997. This new Law comes into being with three main objectives: to

guarantee electricity supply, to ensure the quality of that supply and to reduce costs to the minimum.

The new Law implies important changes which affect the national electricity sector. The most important of its consequences is a moving away from the idea of a public service under state control. The State's role in planning is restricted to electricity transport installations.

Within this new market system, nuclear power will need to be competitive in relation to other energy sources, with emphasis laid on two highly important points: the reduction of production costs and the maintenance and improvement of levels of nuclear safety and radiological protection.

The events leading up to the signing of the new Bill have served as a basis for a wide **repercussion in the press.**

The period analysed with regard to the press is twelve months (December 1996 to November 1997). In total, almost 1,500 informative and opinion-leading articles were published during this period in both the national and local daily newspapers.

The legislative reform in question also came in for a great deal of attention on radio and television. We have centred our analysis on the press because of the wide variety of information presented in the opinion pages and the way in which the news items have been handled. The information published on the new Electricity sector Bill has mainly been included in the economy and national news sections. The number of opinion-leading articles which has appeared in the press exceeds what is normal.

Underlining the messages most frequently appearing in the information published is necessary in order to be able to study what is known by public opinion in relation to the subject. The press messages having thus been identified, they are contrasted with those which should have been broadcast. The distance separating what was published and what should really have been underlined implies a knowledge gap for public opinion.

In spite of the amount and amplitude - and in most cases the quality - of the information published in relation to the new legislation, certain of the most important concepts have gone unnoticed by the media. As is so often the case, the press has emphasised the more „social" and controversial facts.

PUBLIC RELATIONS STRATEGY FOR THE COMPLETION OF ANGRA 2 NUCLEAR POWER PLANT

Alessandra KEPINSKI
ELETRONUCLEAR(*)

1. HISTORICAL OUTLINE: PUBLIC OPINION ISSUES IN BRAZIL

In the 60's, the general public in Brazil knew little about nuclear energy. The country was under Military Rule since 1964 and, in the public's mind, the Nuclear Program was closely linked to nuclear weapons, being viewed with distrust and, even, fear. Governmental policies in this field were secret - when the decisions were made to built Angra 1 (1968) and to sign the Nuclear Cooperation Agreement with Germany (1975) - the public learned about them as a 'fait accompli'. In the late 70's, people started to hear about the delays in the commissioning of Angra 1 and the problems in the construction of the pile foundations of Angra 2.

In 1980, following the TMI accident, the Federal Government issued a set of regulations dealing with emergency planning, the Federal and State Civil Defense being responsible for the preparation of the Off-Site Emergency Plan. FURNAS first public information campaign in 1982 dealt with emergency procedures and was directed to the Angra NPP employees and their families; local residents were visited by Civil Defense officials in 1983. At that time, the Brazilian Nuclear Program began to be criticized by 'concerned scientists' and by the Press, primarily due to its lack of transparency and its large scope. Safety issues arising from the TMI accident in 1979, lack of definition for the radioactive waste storage and problems with some equipment and components that delayed the commissioning of Angra 1, were pointed out as technical arguments against the construction of Angra 2 and 3.

By the mid-80's, Brazil was suffering a major economical crisis, which led to delays in all the major projects sponsored by the Government. From there on, the construction of Angra 2 proceeded very slowly, being almost discontinued. In 1985, the Civil Defense installed four sirens, distributed within a circle of 5 km around the Angra site and, during 1986, an extensive public information campaign about emergency measures was conducted in the region. Although the military rule ended in 1984, the opponents of the Nuclear Program continued to claim it was military-oriented, too expensive and not really necessary because Brazil had enough hydraulic resources. Due to the economic crisis, the growth in the demand for electricity was much lower than expected and the nuclear plants were deemed unnecessary and unsafe - the safety aspects of nuclear power were always discussed having in mind the TMI(1979), Chernobyl (1986) and Goiania (1987) accidents. The periodic and prolonged shut-downs of Angra 1 contributed to aggravate this situation and earned it the nickname of a "fire-fly plant".

(*) ELETRONUCLEAR is the company created on August 1, 1997, through the merger of the Nuclear Generation Directorate of FURNAS, responsible for the operation of Angra 1 and the construction of Angra 2, with the nuclear engineering company NUCLEN.

A new Constitution, promulgated in 1988, required that all nuclear projects must be approved by the National Congress and put forward some new provisions for the environmental licensing of major industrial installations. On this basis, public lawsuits were filed (1988/89) with the Courts of Justice in Angra dos Reis and in Rio de Janeiro, seeking the shutdown of Angra 1 and the cancellation of Angra 2 and 3. Their main issues were the so-called 'unsafe' operation of Angra 1 and the lack of a trustworthy Off-Site Emergency Plan. Many changes in FURNAS public relations strategy date from this time - visits to the site, including Angra 1 Control Room, Waste Storage, Environmental Monitoring Laboratory and the Training Center were encouraged; a special program for local teachers was conducted from 1989 to 1991.

At the beginning of the 90's, ELETROBRAS, the Federal Government company responsible for the planning of electric power provision, began to forecast serious power shortages if no new power plants came on line by 1997/98. For the Shoutheastern Region, Angra 2 was the proposed solution due to its advanced construction stage, since no equivalent hydroelectric plant could be built in the same time and at the same cost as was necessary to complete the nuclear plant. However, this alternative was strongly opposed by several environmental groups.

2. FURNAS ACTIONS

The completion of Angra 2 was considered of the utmost importance by the Brazilian Nuclear Energy Association - ABEN, which is a technical-scientifical body comprising employees from the various organizations that form the Brazilian Nuclear Sector. As an independent, non-governmental organization, ABEN had more flexibility and could act more quickly; and, being basically an association of nuclear professionals, it had more credibility from the Press and the general public and could act on a national level. In order to gain public and governmental support for the completion of the Angra 2 project, ABEN launched its Public Acceptance Program, which received financial support from FURNAS and other organizations of the nuclear sector that would have difficulties in promoting such a campaign on their own.

As part of the ABEN Public Acceptance Program, a set of "opinion-forming" individuals was selected and put, at no cost, on the mailing list of ABEN's journal - "Brasil Nuclear", to provide them with reliable information on nuclear energy. The second part of ABEN's Program was to engage a press agent in order to break the media prejudices and to get positive and correct reports. An extensive program of visits to the Angra site was organized in conjunction with FURNAS and the visitors - mostly journalists, authorities and politicians - were always accompanied by qualified officials, in order to answer any questions that could arise. As a result, when the Federal Government authorized the completion of Angra 2 in December 1994, some very favorable statements were published. It is also believed that some previous and more balanced media reports helped to influence favorably the behavior of some political leaders.

At that time - 1993/94 - the Greenpeace Movement and many local environmental NGO's were involved in a very heavy campaign against the completion of Angra 2. In order to enable the general public to see 'the other side', FURNAS officials took part in every possible event where the nuclear issues were discussed, such as debates in the media, conferences, workshops promoted by Universities, Technical Associations, State and Local Legislative Chambers, etc. FURNAS also sponsored and took part in several commercial fairs and public exibitions. This Information Program was developed by FURNAS on a regional level, mainly in the State of

Rio de Janeiro. Several of the meetings and other events were sponsored by the Company itself, because we were looking to enlighten not only the public but also the authorities, such as members of the State and Federal Environmental Departments responsible for the Angra 2 environmental licensing, which had on their staff many people influenced by the "greens".

From the several arguments advanced in favor of the plant, the following should be highlighted: the resulting availability of electricity produced in Rio de Janeiro State, reducing its dependence on external sources to 35%; the higher reliability of the transmission grid, due to greater local power generation; better conditions for the economical growth of the Shoutheastern Region; creation of approximately 3,600 direct jobs (increasing to 7,000 during the four years of construction and remaining at about 2,000 after commissioning); creation of hundreds of additional jobs in the local industrial and commercial establishments; and, a considerable increase in the collection of State and Municipal taxes.

Although in the beginning of the Angra project it was not done as part of a company policy as it is today, many actions taken by FURNAS since then helped to make the nuclear plant more acceptable to the local community and to the municipal authorities. In the mid-70's, the hospital and schools originally built for FURNAS employees and their families started to accept people from local communities; school buses and teachers were provided by FURNAS. In the early 80's, FURNAS opened an Information Center close to the Angra NPP site; the first public information brochures on nuclear energy and public information campaigns about the protective measures foreseen in the FURNAS and Civil Defense Emergency Plans date from that time.

In 1985, FURNAS signed its first 'Support Agreement' with the Angra dos Reis Municipality. These agreements have been periodically renewed and their resources are destined for local infrastructure works and public services. Since 1993, 30% of the yearly amount paid by FURNAS is destined for the Municipal Civil Defense, ensuring their support to the State Civil Defense and Fire Brigade in the implementation of the Off-Site Emergency Plan. Also in connection with the Emergency Plan, FURNAS sponsored the installation of branch units of the State Fire Brigade in the villages of Frade and Mambucaba, located within a 10km radius around the plant, providing them with the buildings and the basic vehicles and equipment. FURNAS also acquired additional radio communications equipment for the Civil Defense, it is responsible for the maintenance of the sirens and provides support for the local branch of the Military Police. As all this is used by these organizations on a day-to-day basis, it results in better services for the local community.

In 1986, 1994 and 1997, FURNAS supported the Civil Defense Public Information Campaigns on a large scale, providing personnel, printed and audio-visual materials, equipment and general logistic support. The use of a mobile unit - a Civil Defense vehicle fitted with a TV/VCR, posters, etc. - proved particularly effective in the last campaign, where informative brochures about plant safety and the emergency plan were handed out to the population living within a 15 km radius around the plant. In 1995, FURNAS opened a Public Information Center in downtown Angra dos Reis, where several courses and conferences on nuclear energy, environmental protection and other subjectss of interest to the local community are promoted.

How to interpret Swedish energy policy - facts and analysis

Agneta Rising, Senior Advisor Vattenfall AB, Torsten Bohl, Public Relation Manager Vattenfall Ringhals and Carl-Erik Wikdahl, Energiforum AB.

Introduction

The Swedish parliament decided on June 10, 1997 that one of the two reactors at the Barsebäck nuclear power plant shall be closed before mid 1998 and the other unit three years later. Some weeks before the 1998 PIME Conference (on December 18) the same parliament is planning to accept a new act, which will make it possible for the government to close any reactor in the future without any reference to the level of safety.

Sweden is known internationally to have a successful nuclear power programme and to be in the front line to develop safe nuclear waste methods. The decision in the Swedish parliament therefore came as a surprise not only in Sweden but to a large part of the nuclear power industry, all over the world. We, who are working in the Swedish nuclear power industry, have analysed the historical development and the acute situation to be able to understand why a majority of the members of the Swedish parliament voted for a premature closure of at least two nuclear power units. The reaction by the general public to the accidents at TMI and Chernobyl is only part of the explanation. Today opinion polls show that 80 % of the population do not agree with the Government's nuclear energy policy. The concern for the environment seems only to play a minor role, and there are certainly no competitive alternative energy resources available in the near future.

Instead, the main part of the explanation can be found in the skilful political strategy of one or two political parties which have been advocating the premature phase-out of the nuclear power programme since the mid 70s. *A long time ago (in 1976), when the Centre Party .....*

.... we plan to present a detailed document at the 1998 PIME Conference containing the historical background as well as facts and analyses about the Swedish energy policy. In the oral presentation we shall give our personal interpretation and the latest news. In the text below a condensed factual presentation of the Swedish energy policy is given.

The Swedish nuclear programme

Nuclear power accounts for half the power generated in Sweden. There are twelve nuclear power units with a net output of 10 000 MW and an annual energy generation capacity of more than 70 TWh . The other half is hydro and only a few percent is generated by fossil fuel and biofuel.

Nuclear production in Sweden has proved to be technically, economically and environmentally highly successful. The capacity factors have normally been high, the production costs are low and so are the releases of radioactivity and doses to the personnel. All twelve nuclear units are still highly competitive generators on the deregulated Nordic electricity market and a life time of at least 40 years is expected for all the nuclear units, as they are being modernised continuously.

The estimated safety standard of all twelve units is among the highest in the world.

A dynamic nuclear waste programme has been launched. Swedish waste management techniques have achieved world leadership in several important areas.

Manufacturers, power utilities and reactor safety authorities have thus taken all reasonable steps to establish high credibility of nuclear power technology. But in spite of this, several political parties, including the Social Democratic Party, are opposing nuclear power.

An anti nuclear prime minister in 1976
The anti- nuclear policy was introduced in the Swedish parliament already in the 1976 general election, when the Centre Party with a strong antinuclear policy on its programme got the Prime Minister chair. Four years later, in 1980, the Swedish parliament decided, after a national referendum, that nuclear power under certain conditions would be phased out by the year 2010.

In 1994, just before the general election, the government decided to establish an ad hoc energy commission. The commission consisted only of politicians but several expert groups served the commission with facts and analyses. The report was published in the end of 1995 and after one year of public debate, its recommendations were transformed into political decisions.

In February 1997 the Social-Democratic Party in the minority government and two other political parties, the Centre and Left Parties, made an agreement about a new energy policy. The parliament decided according to the agreement on 10th of June.

The nuclear phase-out
The decision in parliament means that the phase-out of nuclear power shall start within half a year and the reasons given are purely political. One 600 MW unit at the Barsebäck nuclear power plant shall be closed by 1st July 1998, a few months before the next general election, and the second twin unit at Barsebäck three years later. A precondition for the closing down the second unit is that the resulting loss of electricity production can be compensated by new power sources and more efficient use of electricity. There are no dates fixed for the closure of the remaining ten Swedish reactors. Thus the old decision from 1980 to phase-out the whole nuclear programme by 2010 has now been abandoned.

According to the government it is possible to replace the power production at Barsebäck by wind, bioenergy and more effective use of energy. A more probable development, according to industrial specialists, is that the import of electricity produced in Danish and Finnish coal power plants will increase at least for the next five years.

New expropriation act
The existing law on nuclear activities provides that only safety reasons are legally valid to close a nuclear power plant. The government has, however, proposed in a bill to the parliament a change in the act on nuclear activities as well as a new act on the expropriation on nuclear power plants. The new act includes rules for compensation to the plant owners. The act, which will give the government power to close any nuclear power plant, is expected to be effective by January 1998.

In the meantime negotiations have started between the State and Sydkraft, the owner of the Barsebäck plant, about the conditions for closing the plant. If an agreement could be reached the plant would be closed without the use of the new expropriation act. It now, however, seems more probable that there will be no agreement and therefore the Government would have to decide to close the plant with reference to the new act. It is obvious that Sydkraft in such a case would appeal to higher courts, first in Sweden and finally with reference to the EU constitution.

The trade union and the public oppose early phase-out
The closing of nuclear power plants would mean higher electricity prices. This would be a threat to the Swedish electricity intensive industry (paper and steel mills), because of the sharp international competition. The Swedish industry and the trade union (closely connected to the social-democratic party) have therefore for a long time been opposing the new energy policy. The result is that the public is well aware of the need for the continued use of nuclear power and a great majority would prefer the continued use of all the twelve nuclear reactors.

Phase-out scenarios

The content of the decision by parliament on 10th June is rather vague and it invites to different interpretations about the future programme for phasing-out nuclear. It is obvious that there is a strong political ambition to close one reactor as soon as possible. But what will follow after that is hidden in a political uncertainty.

The non-socialistic opposition, now consisting of the conservatives, liberals and christ-democrats, has already decided to make the energy policy one of the main items in the 1998 election campaign. If a non-socialistic government, not depending on the Centre Party, could be established after the election – an improbable outcome of the election – it would be possible to reopen the reactor, which might have been closed at Barsebäck. It is in fact rather difficult, or impossible to make an informed guess about the long-term energy policy after the general election in mid September 1998. One optimistic scenario is that only one unit will be closed and that all remaining nuclear units would be allowed to operate as long as it is safe and economical to do so. The most pessimistic scenario – and for the moment not very probable - is that the second Barsebäck unit will be closed by the year 2001 and that the remaining ten reactors will be closed with a frequency of one about every fourth year.

There is only one thing we know for sure: We shall be able to report some interesting news about the Swedish energy policy at many PIME conferences in the future.

Industry's Opponents Workshop

Statements of Leading Contributors

ENS PIME '98 CALL FOR CONTRIBUTIONS

The Development and Implementation of a Public Information Programme at the Kozloduy Nuclear Power Plant, Bulgaria

Paper to be presented by Mr Keith Parker*
Director of Communications and Public Affairs
British Nuclear Industry Forum

This paper proposes to examine the aims, approach and evaluation of a Public Information Programme currently being undertaken by the British Nuclear Industry Forum.

Aims & Objectives:

The Kozloduy Nuclear Power Plant has awarded a contract to the British Nuclear Industry Forum to carry out a Public Information Programme with the objective of informing the people of Bulgaria about the content of the Nuclear Safety Account Grant Agreement, the role of the NSA, the role of EBRD and the donor countries in providing the necessary funding, the safety improvement programme being undertaken and the progress being made. The overall aim of the Programme is to build a consensus among energy consumers of the principal issues to be faced in the development and implementation of a Bulgarian energy strategy.

Approach:

There are a number of key elements of the Programme which include:

1) To carry out a communications audit in order to assess current structures and methods of information dissemination. This is to establish the Programme's requirements and provide a detailed operational plan.

2) To assess public opinion and general levels of awareness of the general public, workforce, press, government and industry regarding Kozloduy in order to establish priority messages and create and produce the necessary information material.

3) To review the plant's existing information centre and to provide training and support to facilitate the handling of public and press enquiries and also presentation training for the centre's personnel.

4) To create bespoke outreach programmes which will inform local and national Government, the workforce and local communities, women and schools of safety improvement processes.

5) To implement a media programme which will enable staff at the plant to deal effectively with inquiries and to enable them to anticipate media interest in a range of issues including the safety upgrade.

6) To organise a workshop on issue management so that participants can create and communicate an issue position and statement.

Evaluation:

Towards the end of the consultancy period an evaluation programme will determine whether the programme has reached its target audiences and achieved its goals. There will be continuous assessment of the programme as it proceeds in the form of debriefings, short reports and feed back forms so that the focus of the programme can be adjusted if need be. There will then be a closing review at the end which will include an analysis of the media coverage.

** This paper maybe jointly presented by Mr Keith Parker and a member of the project team in Bulgaria.*

Advertising

Alain de Tonnac presents:

Framatome's 1997 Advertisement Campaign

As many other companies involved in the nuclear business, Framatome was initially concentrating on corporate advertisements in business newspapers and magazines.

The reasons for a change

The last corporate ad campaign (1994) was promoting the fabrication capabilities of the company and its subsidiaries, in all of its sectors of activities, namely nuclear power, mechanical engineering, and connectors, while emphasizing the international dimension of the Group. This gave shape to the "grid"-type ad, that did not allow enough space for powerfull headlines and long messages.

For many target groups however, the theme of corporate capability is not appropriate and not enough appealing. On the other hand, the company was (and still is) in a turmoil of a possible drastic change in its shareholding composition. Then, communicating on the different sectors could be considered inappropriate, if not even a tentative to interfere in the negociation underway between the shareholders.

A third reason was that, with nearly two thirds of its electricity generated by relatively young nuclear power plants, France is not in a hurry to build new units. There is still a large domain that remains practically free: Europe at large. But the deciders for such possible decisions are beyond the French borders, I mean in the European Institutions.

The new campaign

A first goal was to concentrate on our traditional nuclear core business, while selecting the protection of the environment at large, and particularly the greenhouse effect, one of the most sensible issues of the moment. The 1997 campaign was shaped around the need to motivate European deciders, while maintaining a domestic consensus towards nuclear power for the future resumption of constructions.

The brief

The brief elaborated for Ad agencies was roughly threefold:

- elaborate simple messages, unquestionable, and explained with serenity;
- put emphasis on the benefits of nuclear power for the environment;
- establish a balanced comparison between nuclear and fossil fuels;

The advertisement panels

The initial version submitted by our agency DevarrieuxVillaret consisted in eight advertisements. Four were retained; another one dealt with the wastes, showing monkeys peacefully playing on a tree in the savanna, without being disturbed by the wastes leaved

there by the Okloo fossile reactors. The aim was to avoid to be accused of willing to hide the waste problem. The two last ones were on harmless health effects of nuclear reactors.

The tone is not arrogant, but confidential, concluding each message by "Frankly, did you know that?"

The pre-tests

A pre-test was conducted with about 100 people, half of whom from the energy sector, and politicians, mainly members of the French and European Parliaments, the other half from the general public. Being accustomed to a usually discreete, if not "ashamed" nuclear communication, people were generally surprized by such an optimistic tone about nuclear power, but agreed, on average. It was based upon the reactions that the most "catastrophist" messages were eliminated, namely the themes on the harmless consequences of nuclear power on human health. The ad on nuclear waste was judged not legitimate for Framatome, and susceptible to displease our colleagues specializing in that activity !

The campaign

The campaign lasted one month (spread over June-July '97), and the three selected ads appeared successively in the form of a colour double page. Beyond nuclear magazines, the media plan included French daily newspapers : le Figaro, le Monde, les Echos, Libération, and weekly magazines: le Point, le Nouvel Observateur, l'Express, etc. All of them are intended for middle to high social class readers. In addition, some advertisements were inserted in The European Voice, a weekly publication reaching Brussels Commission and European parliament members.

Results from the post-tests

As an average, the campaign was percieved as dynamic (69%), and original (61%). But credibility and conviction were poor (resp 33%, 26%), probably because it was coincident with La Hague being on the carpet. On the other hand, Framatome was considered legitimate to communicate in the field of nuclear vs environment. The messages were well understood. Generally speaking, the executive population was more receptive than the general public.

Conclusion

The merits of the Framatome campaign was to exclusively address the protection of the environment on a soft tone. But no triumphalism! the results show that there is a long way before having convinced the public of the environmental benefits of nuclear power. In view of Kyoto, we decided to go further with the campaign.

Case study presentation by Louise Haskins, Corporate Publicity Manager, BNFL, England.

Submission summary

ENS PIME '98 BNFL's advertising phase II: "We understand that you are a successful scientific company, but what do you actually do".

Last year, I presented a case study about the development of BNFL's advertising strategy and the challenges which we overcame since its launch in 1995. The case study this year will follow the progress of the strategy's second phase.

It will begin by reiterating the role of advertising in the communications mix and the distinct part we believe it plays in building and retaining a strong corporate reputation amongst influential audiences within the UK.

Our advertising to date has aimed to define BNFL's role in the nuclear sector and so detach the company from the contentious debate which surrounds the nuclear industry in general. The case study will briefly summarise how effective we have been in achieving this objective through the first phase of television and press advertising.

The presentation will concentrate, in particular, on the development of the second phase which has involved the production of a new television advertisement and a press and poster advertisement. Having introduced the key characteristics of the company to the UK population during the first phase through describing key scientific achievements, phase two concentrates on BNFL's core activity - recycling nuclear fuel. The presentation will outline the various development phases including concept research, our tough negotiations with the UK's advertising regulatory bodies (the Broadcast Advertising Clearance Centre (BACC) and the Independent Television Commission (ITC) through to final production, testing and media scheduling.

Generating positive attribution amongst the UK population is obviously the key success indicator. Equally, we believe that it is imperative to share such communications activity with another key stakeholder - our own employees. The case study will outline the phase of internal negotiations and substantiation through to the methods we adopted to ensure that employees saw the television advertisement before the UK population at large.

The campaign was launched on 14 July 1997 with an 80 second television advertisement which ran for eight weeks. This was swiftly followed by a national press advertisement and poster advertisement in the London region only. Research, conducted by independent specialists MORI before and after any significant advertising activity, will indicate how effective the second phase of the campaign has been in shifting public perception positively particularly amongst opinion formers. It will demonstrate whether the key attributes of the company which we have endeavoured to project and instil in the mind of the consumer have in fact been well received.

We hope that this case study, using a combination of slides and video clips, will provide a fascinating insight into the development and impact of a campaign which we believe is not only a breakthrough for BNFL but certainly a bold step by the company into uncharted waters.

PRÉSIDENCE
ET DIRECTION GÉNÉRALE

DIRECTION DE LA COMMUNICATION,
DES AFFAIRES EUROPÉENNES
ET DES RELATIONS INTERNATIONALES

EDF launching a new advertising campaign for nuclear power

M. Jean-Michel Fouilloux
M. Jean-Pierre Chaussade

Starting on November 12 last, Electricité de France launched its sixth advertising campaign for nuclear power, running in newspapers, magazines and on television. Inserts were published in 10 national daily newspapers and 7 magazines spread over a 5 week period. A 40 second TV commercial will also be broadcast on 15 different channels between November 17 and December 7, 1997.

In a setting of renewed opposition to nuclear power, the 1997 campaign is a deliberate voicing of opinion and a response designed to instill responsibility and clearly inform the public over the results of the French nuclear electricity programme. The campaign, costing 22 million francs (9 million for the publication of inserts and 13 million for the TV spots) dwells heavily on the programme's comparative benefits for France.

The TV commercial, created by the ad agency Callegari Berville, conveys communication based on proof. The rationale is informative in tone, stating that nuclear power ensures a part of France's independence for energy, and that this is an inexpensive form of power, the results of which are visible on every electricity bill. What is more, nuclear power is a clean and non-polluting energy form. Through scenes of daily life and other imaginary scenes, the spot highlights the advantages nuclear power gives our country.

The press campaign is a continuity of the campaign run in November 1996, with EDF using information developed in advertisements to respond to the major questions being asked by the public: how does nuclear power make the cost of electricity competitive? Why does nuclear power create more jobs in France than other forms of energy? What is the impact of nuclear power on global warming? What do we do with nuclear waste? Why does nuclear power help put our trade balance in the black?

The campaign also helps meet a demand by using a reply coupon to propose a number of documents such as "Focus on the French Nuclear Electricity Programme" or "Nuclear Waste in Questions". In addition, each ad also includes a footnote referring the public to a Prestel/Minitel number - 3614 EDF - and to an Internet server.

Advertising campaigns on the necessity of nuclear energy through mass- media in Japan

Sadaji Niwano
Office of Public Relations (※)
Nuclear Power Engineering Cooperation (NUPEC), Tokyo, Japan

※Office of Public Relations of NUPEC conduct nation wide PA activities concerning nuclear power generations entrusted by Ministry of International Trade and Industry (MITI).

In Japan, the way of PA activities concerning nuclear power has relatively been one-sided and the content of the information which provided to the public has focused mainly on the safety and necessity of nuclear power generations unilaterally so far.

But, with the incident of sodium leakage at the Monju plant occurred at December, 1995 and subsequent fire explosion at the Tokai reprocessing plant at March 1997, distrust of the public increased rapidly against the promotion of nuclear power development in Japan. According to the opinion poll carried out in February 1996, it was shown that 70.3% of the public felt that nuclear power is not safe, up from 57.8% of previous survey in November 1995. Therefore, it has become important to gain public confidence in order to achieve nuclear power development programs, and clarification of the national policy for nuclear energy development are required strongly.

As a result, a series of discussions were actively made at the round- tabled conferences held by Atomic Energy Committee, Japan s national body for promotion of nuclear energy utilization and development, and Advisory Committee for Energy held by MITI, to find out the way of how Japan's nuclear power development should be promoted.

In conclusions of discussions, the important theme concerning the ideal method for proceeding PA activities were emphasized. To summarize these boldly,

① reestablish the trust in the national nuclear policy among the public by transparency and openness, reflecting public opinions.
② promote understanding and reach an agreement with the regional community where nuclear power plant are installed or are scheduled to be installed in the future.
③ explain and convey informations so that the public will think together with us.

As for the ③, we are making every effort to rouse public awareness to the importance of tackling severe energy situations in Japan and lead individual people to think seriously about the issues.

For that purpose, we provide the public with materials and elements to think and decide with as informations.

In the background of those circumstances, the attitudes of PA activities toward the public has changed recently to draw public's attention to the wide range of issues from current severe energy conditions in Japan to global environmental problems connecting to the role and the position of nuclear power among overall national energy policies in Japan and let have urgent feelings among the public..

Followings are the examples that we are taking up in promotion of advertising campaigns through mass media, including inter- net and other information tools.

(1) To show concrete measures to be taken to meet national long- term energy supply/demand outlook for the year to 2030 that encourage energy- saving efforts, increased use of new energy sources and further development of nuclear power generation.

(2) In this December, the 3rd Conference of the Parties to United Nations Framework Convention on Climate Change will be held at Kyoto, Japan.
At this very moment that national attentions are increasingly concentrating toward the energy and environment issues, we will intend to hold advertising campaigns widely through mass media to heighten public awareness on the necessity of nuclear power promotion, as well as conservation and energy efficiency measures, introduction of alternative energy sources, such as solar, wind etc. in connection with the necessity of tackling the environmental problems, especially global warming phenomenon due to the greenhouse gas emissions.
At this occasion, taking up some topics of specifically rapid energy demand which will obviously continue well into the next century and will very likely cause impending energy situations in Asian countries, expectations of serious environmental problems particularly in those of Asian countries, and among that appealing the role of nuclear energy as a clean energy source.

PIME 98


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Summary of a Case study by

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on **Advertising campaigns**

Using emotional rather than rational reactions: can fiction help ?

Ask someone in the street about nuclear events, Tchernobyl will come first. But I am sure that the accident that is the center of the action in the "Chinese syndrome", a fiction produced for the cinema by Columbia with the support of Jane Fonda, is better known than the one that occured nearly at the same time in Three Mile Island reactor. This film can be seen nearly every year on TV in Europe and always creates some emotion.

If the film "Karen Silkwood" is programmed, on illegal actions in a plutonium fuel fabrication plant, dramatizing on the basis a some real facts, our activities are again questionned. We can advocate for months in the schools with perfect documents, unluckily when Gerard De Villiers distributes on the counter of all book retailers, in the railway stations, etc, a book with the title "Alerte Plutonium", anxiety on this product is raised in many more minds than the ones we hopefully educated.

There are many books with nuclear questions as the central subject: most of them are based on nuclear black-mail or the life after the bomb. But there also are a number of them which concern nuclear plants. "We almost lost Detroit" (John Fuller) or the novels on Tchernobyl, are novelizing on the basis of real facts. "Sahara" (Clive Cussler) is a romantic and fascinating thriller around a hidden nuclear wastes disposal place. I have many more of those in my collection. In most of them, the nuclear people are the villains.

In comic strips like "L'Ankou" (Spirou) or TV serials like "The Simpsons", the nuclear power plant employees are stupid and agressive.

Some other writers like PD James in "Devices and Desires", or Michel Corentin and Gil Lacq in "L'energie d'un fol espoir" have nuclear plant managers among the heroes of their plot, and they give a realistic view of the nuclear world, although not really positive.

The days have changed from the time Jules Verne described the technical progress with such enthusiasm that many young people decided to make a career in science and technology. Presently the point is not anymore to show the nuclear engineers or scientists as perfect heroes, or pretend that all is well in perfect nuclear installations. The interesting aspect of a good fiction would be more to make these premices and people positively familiar.

A good example of such a book, is "Overload" (Arthur Hailey): the subject is the delayed licensing of a large coal power plant and its consequences, a dramatic blackout. Nick Goldman, vice president and spokesman for the utilities fighting to build this plant, is far from perfect and gets into trouble for saying openly what he thinks about his opponents. The message reaches the reader without having to explain at length; it is more emotional than rational. It is efficient. A pity that it was never made into a film for TV or cinema.

This autumn, I have published a book titled "The Syndrome M": it is a thriller anticipating the anxieties that are coming with the year 2000. It is not about nuclear energy but much of the action takes places in a nuclear power plant. It shows interesting aspects of this installation without being didactic. And most of the nuclear people involved are shown as responsible knowledgeable actors. The story is such that it could be a good scenario for a TV serial; possibly.

By next february, I will have the first reactions of the public. The book will have been on sale for four months, including Christmas time: a good time for evaluation of its impact.

I have read two other fictions which have been published this summer with nuclear activities as the central subject. One is the second edition, in paperback, of a book first published twenty years ago for the youth: "L'energie d'un fol espoir", by Michel Corentin and Gil Lacq, the story of an engineer who desperatly wants more time to test his new nuclear fuel. The other is the revised edition of "Les cendres de Superphenix" (originally published in 1988 in Switzerland to support movements against this reactor) where Jacques Neyrinck, a swiss professor emeritus, describes the catastrophic impacts of the reactor explosion.

The reaction of the press and the public to these books will complete my case study and I hope it will convince all of us that fiction publishing is an efficient "advertising" media.

Privatization
&
Deregulation

Nuclear communications and deregulated energy market

Case Study By
Antti Ruuskanen, IVO Group

The Nordic electricity market

The electricity market all over the world is facing the most profound change ever. The market is to be deregulated, competition will be increased and companies privatised. The boom started from the UK but today the Nordic market is the most liberalised in the world. The grid is the marketplace and open to all generators. Even the households have the right to select their supplier there. It is not only European Union backing this lucrative change but also countries like Hungary and south-east Asian countries together with the US are looking for benefits from opening up the electricity market.

Nordic market consists of annual power sales around 350 TWh and a only modest growth potential of 1- 2 percent per year. All fuels and all technologies meet in the marketplace. Nuclear has its good one fourth share of the production there. Nuclear is clearly for base-load with low marginal costs next to hydro electric power. Prospects for any fuels, technologies and even companies are based on sound business criteria and viable economy.

There are four major players in the Nordic market. Swedish Vattenfall, IVO Group and Swedish Sydkraft are the three biggest in that order, and all of them have nuclear assets. IVO owns nuclear not only in Finland but also in Sweden. The fourth biggest player is Norwegian hydro electricity producer Statkraft.

The market is characterised by lowest power prices in Europe, two electricity exchanges and continuous power trade across the borders. Some electricity companies are quoted in Stockholm and Helsinki stock exchanges. Sydkraft together with two other listed Swedish companies have nuclear assets in their production portfolio.

The above described market change from national and less open utility driven sector has clear impacts to companies strategies and consequently also to communications.

New target groups

From corporate communications' point of view the most interesting change is the new target groups. It is not any more possible to restrict to personnel, media, people next to power plants, visitors or decision makers. Customers and especially owners, investors and analysts need more and more concern.

New language

At the very same time the communications language will change to more business-like. Power plants will be generation assets, for example. Companies will be positioned differently, and their

success will be evaluated in monetary terms like earnings, profits, dividends etc. opposing the previous terawatt-hour, megawatt or load-factor era.
There are other language related challenges than the need to command, for example, technical, environmental and business language. For example, IVO communicates today in three different languages - Finnish, Swedish and English.

Insider rules and new information practices

In case of privatisation the stock exchanges require insider rules and open information policy. All share price sensitive information must be disseminated simultaneously to all interested parties in the market. This normally increases companies' information activities.

New peer groups

A listed company will be followed carefully by the business journalists against a new reference group - the best companies in best performing industries. This new business orientation will strongly assist nuclear to become business as usual - the normalisation looked after by many nuclear communicators.

New image

This all opens new challenges and possibilities to re-build nuclear image, for example nuclear will be re-located in the media: from environmentally oriented pages to business columns. Companies having nuclear assets will get powerful advocates from the international financing circles - in case the company's nuclear business is economically sound and free from future unpredictable costs. This is surely the case in Finland with excellent track record of availability, strong nucwaste program and continuous modernisation of the plants. In Sweden, nuclear prospects are, however, gloomier due to politics in spite of the fact that there is also very liberal electricity market there.

New energy policies

Market economy in electricity will also ease governmental nationally oriented energy policies and let market forces to decide whether investments are viable or not. This is positive for nuclear - again if and only if the power plants are managed in an economically viable way. Deregulation may open the market from political deadlock to new nuclear investments in case the above mentioned requirements are OK.

All in all, market change comes sooner or later to regions not yet liberalised. It will challenge nuclear companies and their communications. The change always creates opportunities and in nuclear case the chances are good - if and only if the existing or future plants are economically viable.

BRITISH ENERGY PRIVATISATION - 18 MONTHS ON

DOUG McROBERTS
DIRECTOR, PUBLIC RELATIONS

Introduction

Remember this?

VIDEO BAND 1 - 40"

The TV advertisement which launched the privatisation of British Energy in the summer of 1996 - but just how successful has that privatisation been? And who has benefited - shareholders? The nuclear industry? Our own workforce?

Last year, I reported to PIME '97 that the privatisation itself had been successfully completed - following the restructuring of the UK nuclear generation industry, and the creation of British Energy, a new name in the UK - and world energy scene.

In simple terms, that privatisation has certainly succeeded - our share price since privatisation has more than doubled, from £2 to well over £4. Over the last year, it has consistently out-performed the UK electricity sector - particularly over the last winter; it has also out-performed the FT Share Index over the same period, and in December British Energy became one of the UK top 100 listed companies, included in the FTSE 100 having started life at around number 130.

This in turn has meant that a number of high quality institutions have taken a second look at British Energy and begun to invest in us as part of a portfolio of FTSE 100 companies.

Success Built on Success

Our success as a private sector company could only be built on the solid foundation of successes as a nuclear utility. Over the five years from 1992 to 1997, our output went up by 64% as Sizewell B came on line and the AGRs achieved their design load factors at last. Safety remains our top priority, and while our profitability increased, so did our safety ratings - accident frequency rates came down by 60%, and collective radiation exposure to our workforce came down 58%.

Equally importantly, our costs came down and in the first half of the current fiscal year have broken through the 2p per kilowatt hour barrier - and four minute mile of electricity generation.

As a result of all this achievement, coupled with reduction in our total workforce, our productivity went up by over 100% - surely proof that nuclear can succeed in a competitive, deregulated electricity market.

It was important politically for the UK Government to succeed in privatising British Energy - but let me make it absolutely clear that it was even more important to the company to succeed. It was British Energy which had proposed our privatisation - it was not imposed by the Government. I like to think we have fulfilled the promises made to the 600,000 people who actually bought shares in British Energy in July 1996.

It's difficult to see how anybody lost - the Government sold the company for £1.4bn and loaded us with £700m in debt; they also transferred £3.7bn of long term liabilities into the private sector with us, so that total benefit to UK taxpayers was some £5.8bn.

Building the Future

It has been even more important to sustain that initial success to grow and develop British Energy as a company. It's interesting to see how our ownership has changed over the last 18 months. When we were first privatised, 52% of our shares were sold to small shareholders numbering some 600,000, and 48% were bought by large institutions - although only one of the UK top 10 institutions featured on our shareholding list.

18 months on, everything has changed. We now have only around 20% of our shares owned by small shareholders - around 300,000 in number - with 18% owned by overseas institutions (including our largest shareholder Templetons in the Bahamas). 62% of our shares are owned by the major UK institutions including six out of the top ten companies - such as Mercury Asset Management, Standard Life, Jupiter, Hill Samuel and - I am pleased to say - Scottish Widows. This is an important marker for the future. Companies which had initially been nervous about buying our shares have been reassured by the company's performance, impressed with its strategy, and have become long term stakeholders. Even Shell's Pension Trust owns a large slice of our shares.

If this doesn't sound like a typical nuclear company, that's because we're not. The first all-nuclear utility to be completely privatised anywhere in the world, we are increasingly seen as just another electricity generator with developing national and international business interests. I have already spoken about the efficiency improvements and restructuring, which enabled us to be privatised, but there is a much simpler way of looking at this process. Go back eight years, and you had two typical government-owned organisations - the Central Electricity Generating Board and the South of Scotland Electricity Board which operated (among other things) nuclear plants. These were bureaucracies stuffed with medieval barons who had built up their own empires. As a result, costs and administration were out of control, everyone was playing politics, and nobody was concentrating on making a commercial success of what were basically well-engineered reactors. The bureaucracy was dismantled, the barons retired or kicked out and over a painful five-year period a commercial, profitable - and much safer - pair of companies emerged in Nuclear Electric and Scottish Nuclear. British Energy then provided the platform from which these new commercial skills could be marketed to the UK and the world. Quite simply, we have two products - nuclear generated electricity, and the skills to operate successfully in a deregulated competitive market.

The Results

The results are there for all to see. In the UK our market share has increased while our competitors have gone down. In the first part of the current fiscal year, we were the UK's number one generator for the first time. Regular briefing of brokers, analysts and major investors and investment houses has reaped dividends - literally, as the share price has consistently out-performed the rest of the sector.

In common with other major private sector companies, we have developed a corporate values structure - number one being of course Safety First, followed by Profit Through Progress, Personal Integrity, Respect and Recognition and Openness. These characterise the way we do business. Emphasising safety has produced real benefit - no less than six Gold Awards from the Royal Society for the Prevention of Accidents, the first ever award to any company under the UK Government's new Health At Work Scheme, and the first ever award to a power station of any kind under the European Environment Management Award Scheme.

Profit through progress? Producing interim and final results boosted our share price, based on the performance of our power station - as did the announcement of a large deal with British Nuclear Fuels which capped our long term liabilities and boosted the share price by some 25p in a single day.

Our core business is therefore running well, generating very strong cashflow, which in turn has reduced our debt from £700m to under £180m in just 15 months.

The Future

So what will we do with this cash flowing in? The answer is to think like a business should. In the UK, we've made our first investment in a large gas-fired power station with international partners such as IVO, ABB and Elf. We've formed a joint venture company - Sabre Power - with a regional electricity company to build and operate small power stations based on jet engine technology; in this, we are ahead of the field in a new market niche.

Internationally, we're looking at serious investment in North America. We formed AmerGen as a joint venture with PECO Energy of Philadelphia, and are now seriously examining a number of existing US nuclear plants as possible acquisitions. We are also active in Canada as Ontario Hydro reorganises its nuclear and non nuclear business, and we are opening commercial doors throughout Europe and even in China.

This is the shape of the future - for British Energy and, I would suggest, other nuclear utilities which may find themselves operating increasingly in deregulated and competitive markets. We'll be happy to talk to you!

If you want to know more about us, check out our web-site which, I am pleased to confirm, picked up the top award from the UK Investors Relations Society for its presentation of our annual results - another example of our changed orientation in PR terms.

So, to conclude, our perspectives may have changed and our PR programme certainly has. Our business drivers are different - we have a need to succeed, expand and grow in other areas. But the central challenge is still the same - to make a success of a business which is still primarily nuclear, and with that success, ensure that nuclear continues to play its rightful part in the 21st century world, where environmental issues will be even more important - and may themselves offer a new business opportunity.

VIDEO BAND 2 - 55"

Risk Assessment and Communication

EXPLAINING PUBLIC UNEASE ABOUT NUCLEAR TECHNOLOGY AND SOME WAYS TOWARDS EFFECTIVE COMMUNICATION[1]

Charles Vlek - University of Groningen[2]

The nuclear industry suffers from public acceptance problems. But it does have high safety standards, doesn't it? Aren't its services useful to society? Do not nuclear accident rates compare favourably with those in road traffic or the building industry? Cannot radioactive waste be managed quite properly? And aren't there effective plans for the dismantling of outdated reactors? How could this public unwillingness be understood? And what should and could be done about it?

This paper by a decision-psychologist is (mostly) about people's perception of risk, the acceptability of risky activities or situations, the need for public participation in decision-making about technical projects, and the broad meaning of risk communication. Much of the relevant research was inspired by debates, both political and scientific, about the safety and the desirability of expanding the use of nuclear power. In The Netherlands this was hightlighted during the Societal Discussion on future (nuclear) Energy Policy (1981-1983), but debates on the issue continued with some shift of emphasis in the direction of radioactive waste management. The newest item on the Dutch public agenda is the dismantling of outdated nuclear power stations ("better now, or after 40 years?").

For an impression of public concern during the 1980s, here is a short list of perceived risks - however small - of using nuclear technology:

Direct risks
* diffusion of radioactive ore near uranium mines
* accidents during uranium enrichment
* releases of radioactive steam from reactors
* leakage of cooling systems
* production, transport, storage of radioactive waste
* radioactive materials from dismantling of reactors
* proliferation of materials for nuclear arms

Indirect risks
* underestimated costs of reactor construction, operation
* centralisation of control over electricity production
* excessive safety policies (high financial and societal costs)
* increasing incompetence of nonspecialists in electricity generation
* costs of dismantling outdated reactors

The list gives an indication of the *process* character of a risky undertaking: risks (and benefits) may occur in early, intermediate and late stages of the whole venture. Thus, proper management of (perceived) risks should cover the entire course of action.

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[1] Abstract of lecture for PIME meeting of European Nuclear Society in Maastricht, Febr. 2-4, 1998.

[2] The author is professor of environmental psychology and behavioral decision science at the University of Groningen. Address: Department of Psychology, Grote Kruisstraat 2/1, 9712 TS Groningen, The Netherlands, fax: +31 50 363 6304. He was a member of the steering committee for the Dutch Societal Discussion on (nuclear) Energy Policy (1981-1983) and later helped to evaluate the Environmental Impacts Assessment for establishing a long-term interim surface storage facility for radioactive waste.

After a brief analysis of various concepts of 'risk' (with some critical remarks about probabilistic risk analysis), an overview will be given of prominent conclusions from psychological research on comparative risk judgment, where *nuclear electric power generation* and *storage of radioactive waste* invariably come out as a special items in a multidimensional representation. This has implications for communicating and decision-making about risks. Also, a simple heuristic rule may explain many people's acceptance of a risky activity or situation. This rule involves a 'yes'-response to the following three basic questions:

(a) Are the benefits large enough?
(b) Is the activity's catastrophic potential (its MCA) low enough?
(c) Is this course of action sufficiently controllable?

Note that 'probability of consequences' is missing here, that the expected benefits play the leading role, and that 'perceive controllability' is a key variable in risk acceptance.

Perceived risk plays only a partial role in risk acceptance decisions. For such decisions are multidimensional and they are (and logically should be) strongly benefit-driven. Thus technological risk is often rejected for reasons of insufficient beneficiality of the technology itself. Complex risky decision alternatives may best be evaluated by application of a stepwise multicriteria analysis, a topic of interest for applied mathematicians and decision-psychologists alike ('What formal models and methods do we have?' 'To what extent are these useful and how do they work in practice?').

Also, risk acceptance decision-making often is a multiparty affair. This may imply that risks and benefits are unevenly distributed. Participative decision-making may be methodically organised so as to accommodate the perceptions, assessments and preferences of various interest groups. This requires that any party involved sees itself as only one kind of participant, and that it is prepared *a priori* to open itself up for other parties' views and policy preferences. Multiparty social decision-making procedure may be well organized following a stepwise procedure which will be indicated.

'Risk communication' in fact evolves into the design and selection of proper methods and procedures for exchanging relevant information, structuring the relevant decision problem, and evaluating feasible policy options, in a social arena where multiple stakeholders each lay their own claims. Ideally, risk (and benefit) communication should accompany all stages of a social decision making process concerning a major technological issue. Effective risk communication should serve one or more of six distinct functions. It should stimulate or lead to:

a. appropriate planning and design of risky activities or products,
b. good decision making on risk acceptance,
c. adequate safety management concerning a chosen course of action,
d. proper accident handling and effects mitigation, if necessary,
e. anxiety reduction in exposed persons,
f. improved insights into risk management among all parties involved.

Nuclear technology is a special world apart, and so is social psychology (which may seem to be 'the other extreme'). These two worlds, however, may well work together in multidisciplinary attempts to deal more effectively with the management of nuclear power generation, the dismantling of nuclear reactors, and the acceptable storage of radioactive waste. Perhaps the time has come to start some collaborative research.

National Waste Issues

Public Relations Work in the Field of Radioactive Waste Disposal in the Federal Republic of Germany

Eckart Viehl
Press and Public Information
Federal Office for Radiation Protection (BfS)

Since the early sixties, radioactive waste disposal in the Federal Republic of Germany has been based on the decision that all kinds of radioactive wastes are to be disposed of in deep geological formations. One operating repository and two different disposal projects are currently under way in Germany.

The Morsleben Repository for Radioactive Waste (ERAM), presently the only approved repository, is intended for low and medium level radioactive wastes. The Konrad Mine is designed as a repository for radioactive wastes with a negligible thermal influence upon the host rock. The Gorleben salt dome is being explored for its suitability as a repository for all kinds of solid and solidified radioactive wastes, including heat-generating, high-level wastes.

Within the scope of the Atomic Energy Act the Federal Office for Radiation Protection (BfS) is responsible for the construction and operation of disposal facilities for radioactive wastes. To this end, the BfS is entitled to place orders to third parties, for example to "Deutsche Gesellschaft zum Bau und Betrieb von Endlagern für Abfallstoffe" (DBE).

In contrast to other countries where work is aimed at side selection, German activities are mainly directed to winning the acceptance of pre-selected sites. This work started in 1978 for the Gorleben site and in early 1980 for the Konrad site.

At BfS, the Division of Press and Public Information

- operates an Information Office in Gartow for the general aspects of the German waste management as well as the site exploration programme of the Gorleben saltdome,
- issues press releases, leaflets and brochures,
- answers questions by telephone and in writing, and
- takes part in fairs and exhibitions.

This activities of the BfS are directed especially to the general public whereas the DBE carries out site-depending public relations work especially by operating information offices at the sites with main emphasis on looking after visitors and being in contact with the local authorities.

DBE on site public relations tasks

by Dr. H.J. Krug und Dr. R. Meyer

Thesis:
There is no 'golden rule' for an immediate increase in acceptance of nuclear facility sites - this applies to nuclear power plants as well as waste management facilities.

The German Company for the Construction and Operation of Repositories for Waste Products (DBE) - entrusted on behalf of the Federal Government with the management of all three German waste repository sites (projects), Morsleben, Konrad, Gorleben - concentrates in the field of public relations work on the following:

- caring for (and informing) visitors from home and abroad;

- cooperation with local and regional authorities and their representatives, press, media, etc. including associate editing of the GORLEBEN-information leaflet which appears monthly or every second month in cooperation with the Federal Board for Radiation Protection (BfS), as well as press releases if required;

- responding to inquiries and visit requests of press, radio and TV.

Basic work:
- early and comprehensive information of the public at the sites about progress of work and possible exceptional events with special involvement of local politicians and representatives as well as press agencies. Close contacts exist to the local paper and to a national paper;

- municipal representatives and the media are regularly directly informed on site or sporadically at their own request;

- special emphasis is placed on the spoken, explaining word, namely that communication and discussion are valued more highly than written material. Of course, transparencies, films and brochures are available to support the spoken word;

- continual availability for discussion and information presentations e.g., also at weekends;

- maintenance of casual contacts to opponents of the plant.

In Gorleben - the site of further waste management facilities beside the exploration mine - there is close cooperation with representatives of the other important companies and institutions hence, visitors are generally pooled, i.e., the majority visit all facilities or their information centers.

WANO & WIN

WANO's Communications Programme – What More Should We Do?

Katie Elliott, World Association of Nuclear Operators

The presentation will cover the following:

- Brief outline of WANO
  - Mission
  - History
  - Programmes
- Communications Philosophy
  - Internal communications (WANO members)
  - External communications
- Internal Communications
  - Strategy
  - WANO Intranet
  - Plant visits, the caravan project
  - Contact Persons
  - Inside WANO newsletter
  - Annual reports for the WANO programmes
  - Annual and Biennial Reviews, What is WANO brochure
  - Other briefing materials
- External Communications
  - Strategy
  - Limitations
  - Main audience
  - Message
  - Press relations (press conferences, press releases, press invited to meetings)
  - Publicity material (annual reports, WANO brochure, Performance Indicator trifold)
  - Speakers at conferences
  - The impact of WANO confidentially ruels on external communication
- What more should WANO do?
  - What are communications needs of the industry?
  - Is WANO best suited to meeting these needs?
  - What role can WANO play?

Eastern countries - WIN Activity Review
by Mihaela Stiopol - Romanian WIN Leading Group

A word which governs our everyday life is communication.
And communication involves a lot of emotion.
On the other hand, nuclear means science and high technology and this implies a lot of reason.
An objective and effective communication is a combination of emotion and reason in informing people.
The first thing in achieving an efficient communication in all that means and involves nuclear field is to win the souls of the public with an informational policy to persuade people to accept nuclear energy.
Women can play this important role in informing people about nuclear energy.

WIN is a world-wide association of women working professionally in the fields of nuclear energy and radiation application who want to devote their time to public information.
The main goal of the WIN is to establish an objective and effective communication with the public through educational programmes, information exchange and arranging study visits.

The constitutional meeting of WIN took place at the Grand Hotel Pupp, in Kalovy Vary, Czech Republic, at 15:00 hours on January 31, 1993.
The constitution was based on the Charter adopted at the first Leading Group meeting in Zurich, in November 1992.
Many of the members of WIN are employed in the nuclear energy sectors but a large number are working in other areas where nuclear technologies are utilised. The membership includes women working in medicine and health care, in regulatory authorities, in industry and as independent researches at Universities.
They want to contribute to objectively informing the public by making presentation, discussing and giving information materials on subjects such as:

- radiation, radioactivity and health effects
- medical applications
- nuclear energy
- nuclear power plants and their safety
- nuclear and environment
- uranium mining
- radiation protection
- energy sustainable development

WIN is also open to men, supporting the goals of WIN.

At present, WIN organisation includes almost 550 members coming from 39 countries. There are 16 countries having national WIN Group and 2 countries having national energy group.

The aim of this paper is to show how women coming from different countries - namely Eastern and Central countries - are achieving this goal.
For these countries the status of the nuclear power at the national or international level has a great influence on the WIN objectives and actions.
To win confidence in nuclear power plants under operation, to obtain public acceptance for new nuclear facilities construction, to make known the influence and the benefits of radiation, to educate the public, mainly the young generation for better understanding nuclear energy - there are only several common targets of the WIN activity in these countries.
The fighting means in achieving these targets are also common:
- organising lectures on different subjects to ensure a better understanding of what nuclear energy and its application means;
- organising visits for the public at the nuclear objectives;
- communicating with mass-media;
- presenting the pro-and counter arguments for nuclear power;
- collaboration with other similar organisations in the country and abroad.

There are also specific problems for each country and also specific means in solving these problems.

BULGARIAN WIN Group
The first Bulgarian WIN are from 1993 and today, WIN Group consists of almost 30 members, coming from the Institute for Nuclear Research and Nuclear Energy, ENERGOPROIECT, the National Electricity Company, Kozloduy NPP or Belene platform.
the attacks coming from the foreign press and from some Bulgarian politicians directed against the operation of the Kozloduy NPP and the re-starting the works on the Belene NPP were the main concern of the activity of WIN's members.
Staring with the year 1995 WIN's activity has directed mainly towards the presentation of the truth related to Kozloduy NPP.
To this end there were organised:
- press conference with the representatives of local and central mass-media;
- participation in the week named "Open Gates";
- participation in the conferences of the ecological organisations whose actions is directed against Belene NPP and re-starting the reactor No1 of the Kozloduy NPP;

- using the right to make a retort when the safety degree of the NPP or the qualification of the personnel were attacked;
- trips on the Danube river, organising made by children of Kozloduy, or the workshop "The Education of Our Children" followed by debates on the ecological impact of an NPP;
- charity actions for children homes and hostels and old people's asylums in the region;
- collaboration with women organisations in the towns within the region.

WIN HUNGARY

WIN Hungary was established in January 1994 and today has 15 members.

Its objectives are similar to WIN Global:

- Find the best way to communicate with people who might influence public opinion, like teachers, doctors, politicians, wellknown persons etc.

This is the result of an investigation made at the end of 1996 and which underlined several ideas to be considered such as: low level of public information received by people who could personally affecting the people opinion and that the population wants more information.

The result of the analysis is pointed out the social feeling of the people determine their behaviour concerning objects which could potentially cause their further fears. This represents the new goal for WIN Hungary activities.

Co-operation with local environmental groups, establishing discussions with other women groups, information of the decision-makers, actions with teachers, students are several directions of actions of WIN Hungary.

One of the relevant latest WIN initiative is Nuclear Woman's interview in the "Successful Woman's Magazine" which was connected to the nuclear campaign related to the Government plans to installate new Hungarian electricity capacity.

On the Gotenburg's 1995 s Annual WIN Global meeting, Mrs. Ludmilla Kiss Zoltánné, the President of WIN Hungary was elected as a member of EXLG, the only Eastern Europe representative in WIN EXLG.

On October 21st 1996, WIN Hungary hosted WIN Global Executive Leading Group meeting in Budapest.

WIN-Czech Republic Group

On October 1994, a women's independent association called "For cleaner Energy" was set up. It was established to promote safe nuclear energy as an environmentally clean source of energy.

Today, there are 61 members - women working in the nuclear physics, energy and the use of ionising radiation and radionuclides. There are also four members of WIN International.
The main objectives of the association are as follows:
- to make an objective information about the use of nuclear energy , ionising radiation and radionuclides;
- to contribute at the improvement of the culture of the public in this field.

The ways used by the Association to achieve these objectives are:
- organising lectures and study trips for its members and the general public, such as a study trip to the Temelin NPP site, meeting in the headquarters of the Czech Power Company in Prague;
- communicating with mass-media, as example: a successfully participation of the Association's representatives in a Radio talk (march, 1995) or in a similar TV talkshow (October, 1997) with anti-nuclear activists;
- providing or arranging the acquisition of technical information on the matter concerning the use of nuclear energy, ionising radiation and radionuclides.

The Association offers the public short lectures on topical subjects ("Global Environmental Problems", "The Influence of a Nuclear Power Plant on its Surroundings", "Search for a Nuclear Waste Repository", "The Use of Ionising Radiation and radionuclides", "Comparison of Amounts of Irradiation from Different Sources", All the Things That Can Be Done for Safety Inside a Nuclear Power Plant", and "Radioactive Waste Disposal").
The offer was given only once in Dukovany NPP regional press (to this time no interest among the public).
For the future, the Association intends to extend its activity providing:
- lectures for its own members;
- organising visits for women journalists at a nuclear power plant or another nuclear facility using radionuclides;
- issuing a newsletter for its own members, which will be available to the press too;
- organising two meetings per year, followed by a study trip or an exhibition or an event organised by the Association itself, etc.
- issuing press articles about women working in the nuclear specialities;
- hosting a future annual meeting of WIN.

ROMANIAN WIN GROUP

In Romania, the WIN Group was established in January 1995. Today there are 26 members, a small team but deeply involved in the nuclear power field and especially in the construction of Cernavoda NPP.

The fact that in Romania there is no opinion obviously directed against nuclear power so far, has entailed an activity focused on education, information and promotion of nuclear energy and especially of the nuclear power.
Few of us are involved in activities related to the public information programme, another part is dealing with safety or civil works but all of us have our own contribution in the Unit 1 commissioning.
Each of us has, of course, her own activity and tries to explain what nuclear power means and why we need it, how safe the NPP is. We tried to explain and to present the events, step by step, up to the moment when NPP started to operate.
The WIN members developed the activities in two main directions:
- educational programmes in schools preparing also the materials needed to support such activity;
- organising the annual contest and exhibition of drawings made by children younger than 14 years, having the topic "Nuclear Energy Saves the Environment".

We are also involved in the organisations of the annual manifestations within "the Romanian Energetics Days".
For the future the main objective shall be the developing of the WIN Group, by including more members coming from Cernavoda NPP and the Institute for Nuclear Research-Pitesti. This will offer the possibility to develop an informative and educational activity at the local level.
Regularly meetings of the WIN members will be established to discuss and to decide the best ways of action in working with the public.
We also hope to increase the co-operation with similar organisations from other countries.
Thus, Romanian WIN Group have proposed a regional meeting having the topic "Nuclear Safety and Environmental Protection: Two Keywords of the Public Acceptance" for 1998.

The intention of this paper was to underline the main aspects which reflect WIN activity in some Eastern and Central countries. There are common features and also specific elements for each country. But the goal is the same: to assure an effective and a real information of the public related to the nuclear field.

Internet Workshop

Statements of Leading Contributors

CREATING A WEBSITE THAT WILL REALLY WORK FOR YOUR ORGANISATION:

THE BRITISH ENERGY EXPERIENCE

ANNE CAMPBELL, BRITISH ENERGY

There is no doubt that the Internet is going to be the communications power tool of the future. Judging by the number of top line companies who have quality websites and the number of website addresses that appear in press and television advertisements, few organisations who mean business can afford to ignore this exciting, fast moving medium.

The Internet - millions of computers which can 'talk to each other' via telephone lines - has been described as revolutionary in communication terms as the wheel was to transport. As we enter a new millenium, the Internet is becoming more than just a huge information resource, it is increasingly being developed to carry out business transactions - already we can shop for groceries, find a mortgage and send bouquets on line.

British Energy's award-winning website was launched in the European Parliament in April, just two months after a London-based design company had accepted a tight audience-led specification that included clarity of design, promotion of the British Energy brand and, most importantly, ease of navigation.

British Energy had identified its key objectives. Number one was the promotion of British Energy the brand in relation to its better-known subsidiary companies, Nuclear Electric and Scottish Nuclear. As the Internet is a truly global medium, accessible 24-hours a day, it was recognised that it could be particularly important in reaching potential partners and customers. British Energy certainly made clear its global aspirations from the outset and therefore it was important that visitors to the site understood what the company was and from whence it came.

The audience-led strategy is delivering quality information to the people British Energy are most keen to communicate with. The sharetracking feature, news desk and narrated video tour of Sizewell B, the Pressurised Water Reactor, are amongst the most popular aspects.

In December, British Energy won the 'Best Annual Report on the Internet award in a competition organised for the first time by the Investor Relations Society and the London Stock Exchange.

Internet - Workshop contribution proposal

Janine Doran
Media Affairs Officer, BNFL

Introduction

BNFL first launched itself on the World Wide Web (WWW) in 1995 to give free access to information on the company and our activities to interested parties and to try and counteract some of the misleading claims being put onto the web by various anti-nuclear organisations. Whilst fit for purpose 2 years ago the current site has not been developed further and as a result does not reflect the image of BNFL as a world class international company. The current site has however enabled us to ascertain how popular and useful a BNFL web site is for all our audiences. We are now using this knowledge to redevelop BNFL's web site and are aiming to re-launch in September 1997 with a whole new look and style which will set a precedent for further developments in the near future.

Beginning the redevelopment

During the past twelve months BNFL has received some negative criticism of its current internet site. This criticism prompted us to rethink our strategy on the WWW and started the redevelopment process of which the first stage is due to be launched in September.

The process began by choosing a suitable internet design company to manage the redevelopment. After meeting with five design companies we decided upon our current advertising agency - CDP. CDP have successfully been working with BNFL since 1994 and because of their sound knowledge of BNFL were the ideal candidate.

Aims

Our main overall aim was to redevelop the site so that it projected a consistent image throughout which complied with our Corporate Identity standards whilst promoting the image of a scientific and highly skilled world class international company.

I believe we will know that our aim has been achieved when we become the first stop for internet users who wish to know about the nuclear industry.

We will be using a monitoring tool to help us record the number of visitors to our site. We are hoping to see a dramatic increase from our current average number of 'hits' of 18,000 per month. If as expected we see an increase we will have to work hard to ensure that the visitors keep returning and this we believe will be achieved by implementing our future plans (See below).

Technical operating environment

We decided on a Lotus Notes Domino server using Lotus' "Chilipepper" concept for our operating system because as a company we are moving towards using Lotus Notes for our internal e-mail system and other database applications. We also found that the web capabilities of Domino were particularly suited to what we required and gave us a robust and very secure solution much more so than a conventional web site.

Future plans

Because of the nature of the medium it is important to keep the site up to date with the latest news and press releases etc.. which we will be doing internally using an updating system we have had developed using lotus notes databases. On a larger scale some of our future additions to the site will include:

1. Using in-house skills to develop virtual reality tours of the Visitors centre and process plants.
2. Interactive games for all age groups.
3. Spy camera's in process plants.
4. The BNFL Engineer
5. On Line ordering for BNFL Education material

The Uranium Institute

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Pime'98 Abstract

The Uranium Institute has run a World Wide Web site since July 1995 and has seen user sessions reach around 5600 per week. The site comprises some 700 pages of news and information and has attracted a good deal of favourable comment. The site is intended as an information resource to augment the service provided by the UI Information Service and is aimed at both industry and non-industry web users. The actual user community includes UI members and others from the industry, mining and financial analysts, lots of students and school children, journalists and a large number of unknown individuals. Hopefully the workshop can be used to examine user reactions to industry sites and get some idea of the extent to which we are talking to ourselves over the net rather than talking to our „publics".

Although the UI was quite early on the web scene by nuclear standards, development of the UI site has proceeded fairly slowly and the accent has always been on good quality information. With 170,000 visitors per year site use indicates that there is a demand for nuclear information while responses indicate that there is a substantial body of quiet nuclear support which welcomes the opportunity to communicate with the industry. Does the web help to pull the industry and its supporters together?

The WWW has often been portrayed as a vehicle which allows good news and information to be communicated direct to the „public" but attempts to realise this opportunity have not always met with success. The UI has had a generally positive experience with its web site but this is not universally the case. I would like to explore the background to this both in my presentation and in the subsequent discussion.

My general theme is to ask the question „What do users want from a nuclear related web site and are we providing it?" Conversely it is pertinent to ask the question, „does what the users seem to want coincide with what we wish to supply ?" I will seek to address these questions from the UI experience and also from my experience of what others are doing.

Ted Mole
Head of Library and Information Services

Waste Workshop

Statements of Leading Contributors

The Gap of Views on Radioactive Waste Issues

Dr Sten Bjurström

Swedish Nuclear Fuel and Waste Management Co - SKB

Stockholm, Sweden

ABSTRACT

There are few issues in our society causing more concern among the general public - for several reasons - than the radioactive waste. There are also few areas where the gap between the laymen views on risks differ more from the objective scientific views of the involved expertise.

After many years of R&D there exist technologies to take care of today's waste products and also solid knowledge for the long term solutions; the big problem of today is therefore - will society make use of it?

Can we bridge the gap in views between experts and the layman to facilitate necessary political support and decisions for the radioactive waste issues?

The paper deals with the political, social and opinionforming aspects of the decision process and its elements and relation to the scientific and technical issues. For the building of a deep repository it is not at all enough to satisfy scientific and technical requirements. Today it is in particular obvious that we need a drastically much better process to handle the political, social and opinionforming aspects. Without this we will not get the necessary support to bring ongoing programmes for long term solutions forward.

The communication process must be drastically more understandable and better address peoples concerns. Todays knowledge allow for simplifications and structuring of problems. Perspectives can and must be given not only on traditional factors as risks over time, the large safety margins, rather in what way waste can be a problem for an individual human and the importance of the circumstances.

Most aspects are debated in connection with the siting of a repository. The ongoing Swedish programme aiming to build a first phase of a deep repository illustrate several of siting aspects in a general way.

The last five years experience from the Swedish programme and its interaction with many groups in the society like municipalities are discussed.

IMATRAN VOIMA OY

TN/Heikki Raumolin

XA04C1382

PIME '98, PROPOSAL FOR OPENING CONTRIBUTION

NUCLEAR WASTE

Would a debate about an international nuclear waste repository help us win greater public acceptance for our disposal plans?

My opening points will be

- International nuclear waste repositories can be accepted by the public only after the acceptance of national repositories. If there are no accepted national plans or existing national repositories, nobody is accepting any international repository in his or her own country.
- The focus of gaining public acceptance should therefore be on the national programmes and on the technology itself i.e. "Deep disposal is a safe solution independent on the type of rock formations, crystalline, salt, clay etc."
- The Finnish situation is quite clear. Our people are rather confident on the stability of our old cystalline granite bedrock. Finnish politicians and ordinary people are very much against accepting high-level waste or spent nuclear fuel of foreign origin to be disposed of in Finland. This was one of the reasons why the Finnish Nuclear Act was amended before Finland joined to EU, so that the import and export of nuclear waste are forbidden.
- Our site selection programme in Finland is in a very sensitive phase. The Goverment has just confirmed the target, site selection at the end of year 2000, and the statutory Environmental Impact Assesment process has just been initiated in four candidate sites. Certain opponents try to frighten people by claiming that accepting the site and the deep disposal of our domestic waste means also definitely accepting the same for foreign waste, in any case for any nuclear waste from other EU countries.
- So, all news on discussion about international nuclear waste repositories will create more suspicions against the Finnish nuclear athorities, waste company and utilities.

Summary: The answer is **no,** the debate about international nuclear waste repository does not help us to win greater public acceptance for our disposal plans.

CONTRIBUTION TO PIME '98

"RADIOACTIVE WASTE - BETWEEN A ROCK AND A HARD PLACE"

T J Curtin, UK Nirex

Throughout the world, plans for repositories face difficulties. The search for sites has found difficulties in France, Sweden, Switzerland and most recently in the UK. This is despite massive public relations exercises and, in the case of the UK and Switzerland, broad-based local support for the project.

Tom Curtin will present a view on the lessons to be learnt from the Nirex project and give some pointers on the sociology and politics involved in the disposal of radioactive waste.

This paper will review the sociology and politics of radioactive waste disposal.

Lessons Learnt:

- **It is not just a scientific process:** The fundamental lesson learnt from the Nirex experience so far is that the process is not merely scientific.
- **The project has to succeed politically:** To concentrate on the technical aspects of siting without considering the political aspect equates to building castles in the air.
- **Any form of imposition leads to rejection:** The prevailing feeling among some politicians was that the project was unfairly imposed.
- **One player cannot support the whole edifice:** One company cannot carry on its shoulder the entire weight of the project.
- **Third parties must support the project:** Another fundamental criterion of the political process is the active involvement of third parties.

Summary:

The developer cannot do all the work alone - a number of players are needed. Total control - for example, a timetable - is not possible as local communities must have power. Openness and transparency at all stages are essential and finally, and most importantly, politics comes before science, emotion before rational thought. Finally, delays are a part of long-lived projects. The objective is to manage them, not to be defeated by them.

PRÉSIDENCE
ET DIRECTION GÉNÉRALE
DIRECTION DE LA COMMUNICATION,
DES AFFAIRES EUROPÉENNES
ET DES RELATIONS INTERNATIONALES

EDF
Electricité
de France

Jean-Pierre Chaussade

ENS PIME'98

HOW TO ANSWER THE INDUSTRY'S OPPONENTS

1. BE SEEN AND BE HEARD OUT IN THE ENVIRONMENTAL FIELD

Nuclear power reduces air pollution.

- It is an answer to concerns over pollution in cities
- It is an answer to concerns over the earth's changing climate patterns due to the greenhouse effect
- The storage of nuclear waste is now harnessed.

2. DON'T LET PEOPLE GET AWAY WITH UNTRUTHS

The more an untrue notion is repeated, the more truthful it sounds. In confronting this attitude, always take care to denounce lies ans assert truths.

To this end, I suggest creating an international data bank for quotes, wich would collect quotations and the words of internationally known and respected scientists, professors of medicine and experts.

3. DO NOT FORGET THE BASICS

Energy power did not develop on the theme of the environment. And it will not do so in the future.

Secure power supply and economic appeal are the two themes forming the platform for nuclear power. They must remain the base of our rationale.

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Let the allies work for you

The opponents of industry, and most Green campaigning groups, thrive on controversy.

Opponents of industry, and of the nuclear industry in particular, can expect to find a more receptive public audience than do the companies they attack. Therefore, there is little to be gained by industry entering into direct conflict, or even high-profile debate, with opponents.

Industry spokesmen do not rate as being trustworthy in the eyes of the public. And it does not pay to directly attack the credibility, however justified such criticisms are, of the likes of Greenpeace.

In a polarised debate, if your company is seen to be partisan and the opponents to be neutral, the public will gravitate towards the opponents. The way forward is to influence the forces which can help industry establish the middle ground to dissipate the tension.

The problem for industry is not so much that it has opponents, but that it does not have enough third party advocates to mediate in disputes. Therefore, the first step is to identify the key issues facing a company or industry. The second, is to work with credible people and organisations to establish independent mechanisms which can prevent an unfavourable climate building up around those issues.

The art of dealing with opponents, is the art of identifying such mechanisms (people, organisations and professions) to influence an increasingly cynical and distrusting public. These opinion-formers should be the main focus of a communications strategy designed to counter opponents. They are the conduit through which to influence public opinion in general.

For instance, the debate surrounding the incidence of leukaemia around nuclear sites cannot be answered by the industry using the facts, scientific evidence, or by entering into a noisy dialogue with opponents. However, the medical profession, along with scientists working outside the nuclear industry, is in a position to shift public concern away from nuclear sites.

BNFL has promoted research into leukaemia by independent bodies. The results of this work discredited the view that sites such as Sellafield were responsible for the so-called leukaemia clusters. This has resulted in the debate becoming less polarised. The media is not so interested in the issue. This issue no longer offers fertile ground for opponents and its impact is much reduced.

When there is a whole community of third party advocates which can explain an issue in its broader context, a company or industry can take a low-profile. No news can often be good news.

In today's society the values people hold cannot be ignored. To continue in business, industry has to be acceptable to society. Otherwise politicians, thinking short-term about their popularity, will become hostile to any particular activity an industry might launch.

The lesson of the Brent Spar oil platform must not be forgotten. The world's largest company, with all the facts, scientific evidence and resources at its disposal, lost the battle to dump the platform at sea. It was beaten by bad science, lies and emotion, in a polarised debate. Most European governments opposed Shell because their publics did: some with bombs.

The lesson is that the public likes to feel in control of developments, progress and industry. It does not trust industry. If an industry or company does not have an effective screen of third party advocates to answer public concerns, the opponents will win the day.

The public will listen to the more credible voices in society, such as, academic institutions, the medical profession, representative bodies, the media and the like. If the public feels that it has been consulted and that the issue is "under control" there will be little ground for polarisation. The scare tactics of extreme opponents will not work.

In the modern world, when peoples lives are often out of control, people need to be reassured that society is managing issues, industry and development. That reassurance must come from holding a dialogue.

It is impossible for the public to love industry; it is not necessary, and perhaps it is not even desirable. But the public must accept industry. The public must feel it has a stake in it. That can only happen if industry is accountable. And the public will only acknowledge that if third parties actively mediate in any given controversy. The third parties need a stake in our activities, too. In essence, that is what constitutes credible dialogue.

WORKERS GATHER TO REACT AGAINST ALLEGATIONS TO THEIR PROFESSIONAL ACTIVITIES

by Renaud Louwagie (Belgium)

In the environmental, and consequently in many social debates about industrial activities, there are groups and movements that oppose progress and expansion, sometimes even the essence of the activity itself, based on mostly hardly acceptable, even doubtfull argumentation.

They do this, regardless of the beneficial effects that these industries have on the general well-being of modern society. They obviously do not consider any adverse effect that their actions can have on the local scale either.

The methods that are used are the exploitation of heavily emotional argumentation, and based on non-up-to-date scientifical arguments, one-sided and incomplete science, amalgamation of scientific approaches, and a lot of carefully chosen axioma, if not dogmatic premisses.

This methodology is put into practice by media seduction and strong political lobbying, and even by trying to divide the industry itself. Media are used through spectacular stuntwork, ensuring higher sales, and thus a wider public spread of the emotional approach.

In certain industries this phenomenon has gone so far that workers have decided to gather forces in order to counter these tactiques in their own way, and with their own means. Amongst these groups there are members of very diverse functional entities within the industry itself, from the store-keeper to the researcher, from the commercial manager to the financial expert, passing by the lawyer and the worker on the production line.
This diversity of people, with their own expertise and personal experience, who often have been involved themselves in the strong environmental improvement of their own activities (at work and sometimes even in their own neighbourhood), and also with the health and safety assurance in their factories, ensures a wealth of possibilities for such a workers organisation on the general communication side.
Their creativity ensures "action and counter-action" possibilities that can be as mediatic as necessary.
They have, per definition, within these workers organisations, no inhibitions of political nor philosophical order, and they can, through their voluntary involvement and the personal support of their colleagues and friends, be totally independant from their employers. They often are themselves very critical within their own companies, which largely contributes to their credibility.

AND: they communicate with the general public (their neighbours and friends,...), with the politicians and the press in their own, evidently emotionally laden, way. Because, let's face it, when people observe this factory that stands there, buzzing, emitting "smoke" (even be it water-vapour), behind closed fences or walls, it is the industry's own lack of openness and simple-terms communication that induces the fear of the unknown and creates a fertile ground for emotional argumentation.

Environmentalists Dealing with Opponents

Managing a sensitive project

By Pascal ETCHEBER

HERBEMONT CÉSAR & ASSOCIÉS

"A sensitive project needs to be managed differently from a normal project". This statement might seem simple enough. However, I feel that it is not a simple task to prove it in twenty minutes. What I hope to achieve is to meaningfully share with you some of the experiences we have had dealing with sensitive projects. I will start describing what a sensitive project is, though I know that, of all people, you should know. I will then describe the common mistakes that are made in the hope that you may recognise some personal experiences. I will then describe our strategy, how we foster third party support and the main tools we use.

First, I should say a few words about who we are. Herbemont César & Associés is a French management consultancy firm founded in 1985 which specialises in the management of sensitive projects. We work in many areas-not just the nuclear industry- and our ambition is to develop abroad (we already work in the U.K., Sweden, Spain, Italy, Germany). We do not mind sharing our knowledge ("la stratégie du projet latéral" published in France in 1996 was #1 business book with Dunot and we are hoping that our publisher Macmillan will have a similar success with the English version). The expertise, we feel, is not in the knowledge but in the implementation.

What makes a project sensitive? The interactions of opponents, passives and hesitants account for the relational difficulties typical of sensitive projects. Quite often, a sensitive project combines relational difficulties with technical complexities. No wonder the manager experienced in dealing with straightforward projects finds a sensitive project confusing: the manager responds to tension by communicating and the more the manager communicates, the more tension rises. A sensitive project plunges one into an irrational environment.

Immersed into the irrational environment of a sensitive project, one rarely detaches oneself from the situation. As a consequence a series of mistakes normally emerges:
We shall describe four types of mistakes: ***behavioural faults***, ***a wrong vision of sociodynamics***, ***useless communication to all*** and ***unsound foundations***.

Six ***behavioural faults*** are very common. Firstly, the ***Magpie*** syndrome, whose name is derived from this peculiar bird which vainly pursues shiny objects instead of feeding its chicks. Last year, at PIME, in Brugges, I saw an abundance of the magpie syndrome. A lot of energy was spent on the issue of the "shiny" greenpeace. Any time spent on opponents is time lost for allies. The ***avoider*** refuses to tackle the issues. He or she will not go into a meeting if there is the least sign of a conflict. However, problems remain even if one chooses to ignore them. On the other hand, the person affected by the ***Stereotype*** syndrome is not afraid of staring at problems. In fact, such a person looks at the world in a very convenient way. He or she will say and believe that, for example, the conservative are bound to be in favour of the project, that teachers are lefties and consequently against it. Of course, reality is more subtle. Every time I have heard a definite statement on someone whose views were too conveniently

categorised, the statement has been proved wrong shortly after. The ***frenetic*** does not waste time intellectualising, he or she acts. Yet, he or she acts wildly. Like a runner in a mine field, the frantic does not progress by his or her action but gets hurt. The damaged frantic becomes a ***paralytic*** who stands still and refuses to move by fear of causing another mine to explode. When no constructive way forward is available, the ***"Fall Guy"*** *syndrome* appears. Someone from the organisation, usually that very person who led the project and commanded respect is blamed as responsible for the fiasco.

The second type of mistakes is a ***wrong vision of sociodynamics***. First, I shall explain what sociodynamics is. Sociodynamics is a tool which enables one to measure the energy individuals spend on a project. This tool shows that someone can at the same time be for and against a project. A common mistake is to believe that only those who agree are allies, whereas those who both seem to agree and disagree are perceived as fakes. Such a vision of sociodynamics has a major defect: not only is it false, it portrays a world filled with enemies. The correct vision of sociodynamics is very different. There are many allies but there are different types of allies who need to be treated differently. Those who always agree are "militants" who have their use and their limitations: they can become liabilities. Sociodynamics allows one to grasp the relational play of the actors.
Hence, the third common mistake becomes rather evident: it is ***useless to try to communicate the same message to all***. Forty to eighty percent of the actors are passive, they do not want to be disturbed! Traditional marketing approaches fail to capture the variances in energy levels individuals have.
The last common mistake is that of having ***unsound foundations***. Some architectures fit a sensitive project and some do not. Typically, the owner of a project takes on too many roles. Not content with carrying the project, the latter communicates, responds to opponents, interacts with politicians. Hence, allies have nothing left to do and a feeling of injustice prevails.

The right architecture for a sensitive project is one which is based on team play. Our strategy consists of implementing a game in which third parties have a leading role. Only they can have credibility, provide constructive criticisms, and adapt the project in ways that fit the realities of the ground. A sensitive project does not die from an overdose of opponents, but from a lack of allies.

Five tools allow us to foster third party support: ***contact programme***, ***developing an offer***, ***managing events***, ***lateral projects*** and ***sensitive project management***.
A ***contact programme*** is based on a simple truth: one needs to find allies where they are. The meetings are one to one. Group meetings seem cheaper, but their feedback is poor; they focus on the presentation mode, when synchronisation, active listening, immediate feedback and individual actions are in fact required.
Allies cannot be mobilised on a project whose offer is unattractive However, too often a ***project's offer*** is overbearing in terms of usefulness and very poor in terms of values and desires. Experience has shown us that money can be counterproductive. The financial incentives that seemed a good idea in a board meeting become a liability once local people equate the funds with the buying of souls. On the other hand, a project that brings young male scientists can be very appealing to mothers wanting to marry their daughters.
Once allies have been found and once a project's offer has been developed to attract allies, co-ordinating them becomes a necessity. This is when ***Event Management*** enters the scene. It

uses existing events to promote the project and to ensure the coherence of the allies' actions. It also allows one to be proactive rather than reactive concerning potentially damaging events.
Lateral projects complete the puzzle as it were by rendering a project which was initially unacceptable sufficiently attractive to gather third party momentum behind it. By allowing allies to better the project, one moves away from mere communication. When a purely scientific project becomes linked to a tourist activity, the initial project has in effect been changed. With third party support, there is no need to communicate around the project. The project does its own communication.

What remains is to be aware of the ***planning*** required to make a sensitive project succeed. When in a normal project group meetings necessitate no particular caution, in a sensitive project a group meeting should not be organised before the participants are met one to one. What would seem superfluous elsewhere makes here the difference between success and failure.

Ultimately, success is ensured by having a sufficient quantity of allies. A sensitive project does not die because it has too many opponents, but because it has too few allies. Finding and helping allies to act is the thrust of our activity. It enables sensitive projects which deserve to succeed to do so, where traditional management fails miserably.

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PIME'98

Environmentalists Get Nervous as Industry is Gaining Ground.

I think no reasonable person is against environment protection. But what we have seen over the last decades can hardly be judged as a balanced environment protection. Almost everything originating from industrial operations was painted as terribly dangerous, as life-threatening. Just remember a few examples as, e. g.:

- DDT
- Radiation
- Dioxins
- SO_2 (acid rain)
- CO_2 (greenhouse effect
- Asbestos
- Low-frequency electromagnetic fields
- Logging (endangered species)
- Synthetic chemicals (Ames test)
- and many more

Almost everything was painted as having terrible consequences for the environment and humankind. Many substances and effects were blamed as being mutagenous and cancerogenous even in the smallest quantities. The scientific literature was full of junk-science. Just remember the numerous studies linking leukemia with low-level radiation.

Environmentalism with associated junk science originated from the famous trend-setter USA. That is the bad message. The good one is: The USA is once again setting the trend - this time in order to correct past mistakes.

Closely watching the international developments, I found that "enviromaniacs" - I use this term for the fundamentalists - are increasingly worried about their backlash. The reason for is that the success of the "Wise Use" movement and that of "industrial front groups", as these groups are termed by enviromaniacs, is very impressive - and worth some considerations of copying it.

Another reason is that environmentalists are no longer getting away smoothly with their junk-science. Honest scientist dare to speak out, to point to the many flaws in zeitgeist-science. And, believe it or not, the media start reporting on it. Just a few examples:

- Forbes, July 6, 1992--"You can't get there from here" article on ineffective and often counterproductive EPA regulations by Peter Brimelow and Leslie Spencer.

- News & World Report, December 13, 1993--"The Doomsday Myths," by Stephen Budiansky, pp. 81-91.
- Washington Times, March 2, 1994--"Mr. Gore in the Balance," lead editorial on Gore's attempt to smear scientists, p. A-16.
- Investor's Business Daily, July 7, 1997--"A Green Law and Black Markets," article on Freon smuggling by Laura M. Litvan.
- Washington Post, July 9, 1997--"Dancing Around a Dilemma: Global warming promises to become a large and gushing source of national hypocrisy" by syndicated columnist Robert J. Samuelson, editorial section.
- Washington Post, July 13, 1997--"A Conflict Between Creatures: As Humans Move Into Predators' Habitat, Both May Be Under Attack," article on overpopulating species by Tom Kenworthy.

Nuclear energy is by no means the only victim of junk science, of "zeitgeist"-science. The mining industry, the bio-tech industry, the chemical and pharmaceutical industry, the logging industry - to mention but a few - suffered quite a lot from "politically correct" junk science. Fighting back, setting the record straight is now - at least in North America - an approach that even the media accept.

One result of the "green backlash" is a flood of defamatory publications on "anti-environmentalists". One of the worst is the Greenpeace-sponsored book "Green Backlash - Global Subversion of the Environment Movement" by Andrew Rowell, published in 1996 by Routledge, UK, USA, and Canada. Other examples are:

- "The War Against the Greens" by David Helvarg, Sierra Club Books, 1994. A critique of this book by "Wise Use" leaders is enclosed. (Annex 1)
- "The Barbecue Grill Gang - Who's Opposing EPA's New Air Pollution Rules?" by CLEAR Resources, February 27, 1997
- "Industry and Organizations make 'Wise Use' of Earth Day" by CLEAR Publications, 07.05.1997
- "Burson-Marsteller: PR for The New World Order" by: Carmelo Ruiz, Reclaim The Streets (rts@gn.apc.org), Jul. 6, 1997
- "Global Spin: The Corporate Assault on the Environment" by Sharon Beder, Scribe Publications, Melbourne, Oct. 1997

More factual are contributions like:

- "The Myth of 'Win-Win'" by Jim Britell, 15.09.1997 (Annex 2)
- Western Ancient Forest Campaign, Report From Washington, October 13, 1997, Vol. 7, No. 5; section: "Environmental Rollbacks" (Annex 3)

But: What is the new, successful approach that makes possible environment protection in a balanced manner? There are three key "ingredients":

1. Business networks
2. Think tanks
3. Citizen movements

1. Business networks

There are of course many networks. What I have in mind are the "green" networks like the "Responsible Care" program (chemistry), the "International Charter for Sustainable Development, the "Advisory Committee on Business and the Environment", the "Global Environmental Management Initiative", and the "World Business Council for Sustainable Development" (a merger of the business council for sustainable development, BCSD, and the world industry council for sustainable development, WICE). There are many more organizations of this kind. But the few I mentioned should make clear what kind of organizations I meant with business networks.

These networks work closely with "mainstream" environmentalists. Their publications are sometimes barely to distinguish from publications of environmental organizations. An example is the BCSD's book (Schmidheiny S, "Changing Course: A Global business Perspective on Development and the Environment", MIT Press, Cambridge, Mass. London, England, 1992.)

The direct exchange of views without any (interpreting) intermediaries has for sure some advantages which I feel I do not have to explain to you in detail.

2. Think tanks

Scientists working at think tanks - such as the George C. Marshall Institute, Science and Environmental Policy Project, Cato Institute, American Council on Science and Health, Competitive Enterprise Institute, Capital Research Center, National Center for Public Policy Research, to mention but a few - increasingly dare to speak out, pointing to flaws in "politically correct" environmental science. The home pages of many institutes are full of examples.

These scientists also published books exposing junk-science. Some examples are:

- "Toxic Terror: The Truth Behind the Cancer Scare" by Elizabeth Whelan (Jameson Books, 1985)
- "Protecting the Environment: Old Rhetoric, New Imperatives" by Jo Kwong Echard, Studies in Organization Trends (Capital Research Center, 1990)
- "Trashing the Planet" co-authored by Dixy Lee Ray (Regnery Gateway, 1990)
- "Eco-Scam: The False Prophets of the Ecological Apocalypse" by Ronald Bailey (St. Martin's Press, 1993).
- "Science Under Siege" by Michael Fumento (Morrow, New York 1993).
- "Environmental Overkill: Whatever Happened to Common Sense?" co-author. D. L. Ray (Regnery Gateway, 1993).
- Eco-Sanity: A Common-Sense Guide to Environmentalism by Joseph L. Bast, Peter J. Hill, and Richard C. Rue (Madison Books, 1994)
- The True State of the Planet: Ten of the World's Premier Researchers in a Major Challenge to the Environmental Movement, edited by Ronald Bailey (The Free Press, 1995)
- "The Flight from Science and Reason" edited by Paul R. Gross, Norman Levitt, and Martin W. Lewis (Annals of the New York Academy of Sciences, Vol. 775, 1996)
- Polluted Science: The EPA's Campaign to Expand Clean Air Regulations by Michael Fumento (American Enterprise Press, 1997)

Other useful material is:

- "The Directory of Environmental Scientists and Economists", a publication of the Environmental Policy Task Force, a project of The National Center for Public Policy Research, released December 1996. (Annex 4)
- "Science and Environment Databank" a publication of "The National Center for Public Policy Research", last download: 30.11.1997. (Annex 5)

The activities of the think tanks had in my opinion a remarkable influence on the media and politicians.

A few years ago, you could hardly find contributions by these independent scientists in the media - with one exemption: Forbes! Today even the New York Times and The Washington Post carry their contributions.

The World Wide Web will - in my opinion - enhance the process of coming to balanced environment protection based on facts rather than on ficts.

3. Citizen movements

A "new " brand of citizen movements is gaining momentum - and public acceptance!

In principle, there are two kinds of citizen movements of the "new" brand:

- Movements initiated by PR-giants such as Burston Marsteller and Hill & Knowlton (and a few more). The enviromaniacs call these groups "industrial front groups".
- "Wise Use" groups including angry citizens who suffered from over-regulation, e. g. people who lost their job, farmers who are no more allowed to log their trees or let their cattle graze on "public land", and people who suffer from a devaluation of their properties caused by "protection acts".

They use their own materials as well material from "Think-Tanks". To give you a taste on what such publications look like, I chose two examples:

- "National Directory of Environmental and Regulatory Victims", (Abbreviated Edition), published October 1996 by The National Center for Public Policy Research. (Annex 6)
- "Wise Use: What Do We Believe?", downloaded 30.11.1997. (Annex 7)

Both movements copy to a wide extent the successful tactics of the environmental movement, e. g.:

- Drowning politicians with letters, faxes, phone calls on a special issue
- Organizing demonstrations with banners
- Issuing resolutions
- Attracting media attention with uncommon actions
- Voicing loudly their discontent with the present situation which deprives them of their freedom
- Using stickers, leaflets, and brochures with their point of view
- "Fly-ins" to Washington

- Organizing "grass roots" support
- Pointing to scientific studies supporting their case

The "Wise Use" movement copies also the harassment of key persons on a special issue, an issue which should at least a few of you know from personal experience.

The "Wise Use" movement copies also the approach of the environmental movement to discredit a group or branch by accusing them of being:

- Religious fanatics
- Communists
- Nazis
- Followers to a hidden agenda
- Elitists longing for a world government
- Extremists and anti-Americans
- Out to kill the economy and thereby your job
- Violent terrorists
- and the like

The word "copy" may arouse some skepticism. Therefore, I want to remember you of the terms "Atom-Mafia", ozone killer", climate killer", "right wingers", "ultra conservatives", "destroyers of the planet", "concrete heads", "job killers". There are many more of these discrediting attributions.

What is the quintessence to be drawn from my contribution?

It is very simple. Environmentalists have overwhelmingly a background in political and social sciences. Therefore, part of their education has been how to influence people. In order to cope with them, a promising approach is to copy them. Mirror their approach! Follow the American example!

Thank you for your attention.

At the Mercy of Politics

Changing perception about nuclear power in Slovenia in the changing political climate

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Introduction

Public opinion about nuclear energy and in particular about the Nuclear Power Plant Krško has experienced some fluctuations during last years. There were periods when attacks in media by the opponents were very heavy, which resulted also in a more negative public opinion about this kind of energy production. In the year 1995 and 1996 there was a very strong anti nuclear motion initiated by opponents. They wanted to organize a national referendum for the premature closure of the NPP Krško. The motion was quite a big disaster, since they have managed to collect only about 6% of needed 40.000 signatures for the support of the referendum.

After that there were very few open attacks against nuclear energy present in media. At the Nuclear Training Centre in Ljubljana we are continuing our long-term program of public education about nuclear energy. Elementary and High schools have a permanent invitation to visit us. We receive about 7000 students per year together with about 300 teachers. They all have opportunity to listen to the lecture about nuclear energy or about radioactive waste and to visit our permanent exhibition.

In June 1997 we have repeated the pool among visitors, which was conducted already in years 1990, 91, 92, 93 and 1995. In the paper we will compare the results and try to draw some conclusions.

Public poll about nuclear energy

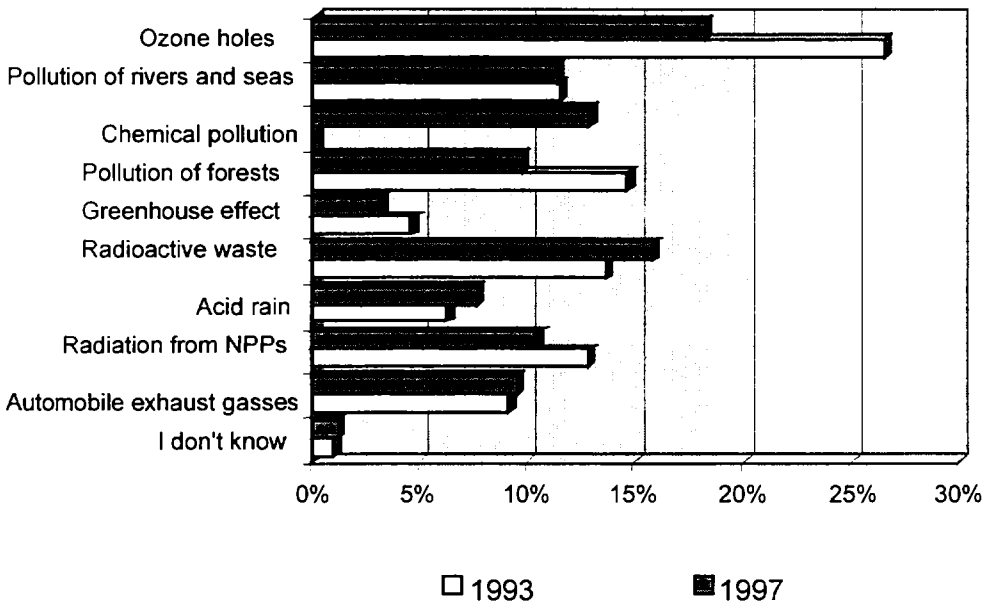
One of the ways we can measure the public opinion about nuclear energy is by polls. For the first time we made such a research in the year 1993 [2]. We have prepared the questionnaire based on the similar poll performed by Faculty for social sciences. Every visitor was polled before listening to our lecture and before seeing the exhibition. By that they should have only knowledge of nuclear energy obtained elsewhere. They were mainly children in the age between 12 and 19 years. Table 1 compares basic data about the structure of polled population. Most students were in both years from the eight grade of elementary school (age 14).

Table 1: Polled population

	1993	1997
Number of asked students	1791	432
Elementary : High school	75,80% : 24,20%	75,70% : 24,30%
Boys : Girls	57,73% : 42,27%	44,70% : 55,30%

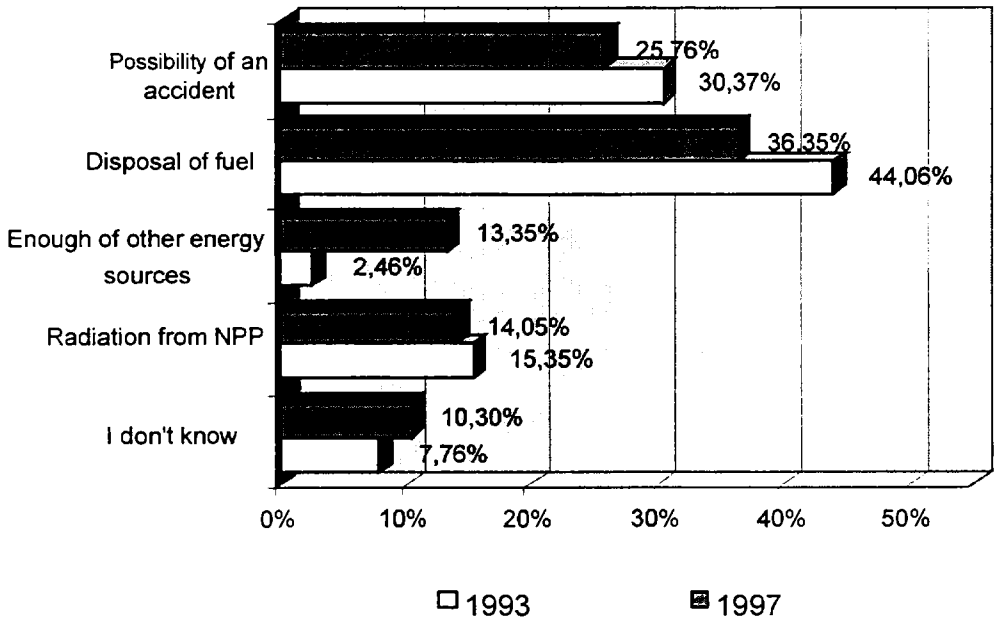
The answer to the question about the most harmful things for our environment (several answers were allowed) shows little changes (Figure 1): ozone holes and pollution of forests are losing on importance, radioactive waste is understood to be worse than four years ago, while radiation from NPPs is given less importance

Figure 1: What is most harmfull to the environment?



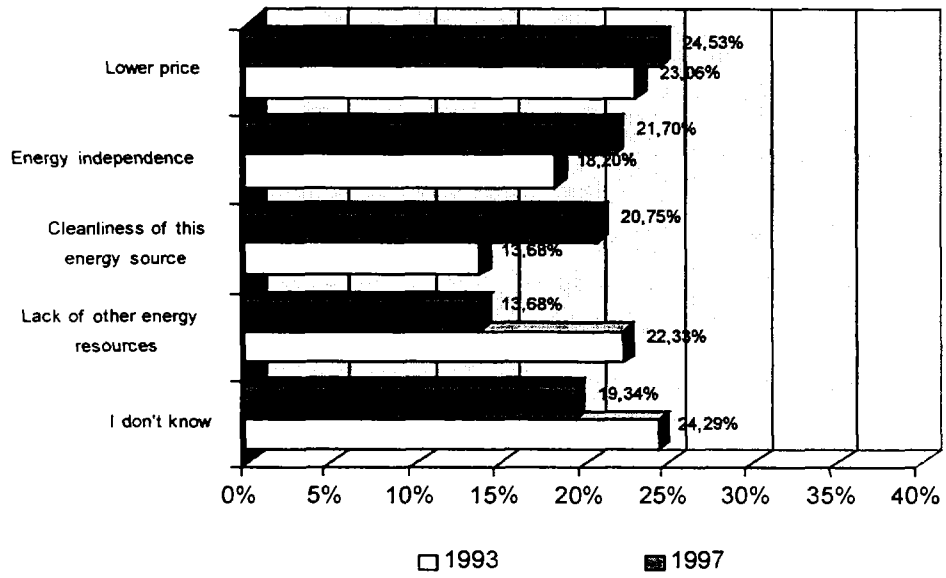
In the answers to the questions about the reasons against the use of NPPs some kind of the shift into the sensible direction can be observed: more people think that there are enough another energy sources and less of them are concerned by accidents, fuel disposal or radiation.

Figure 2: What are the reasons against the use of nuclear power?



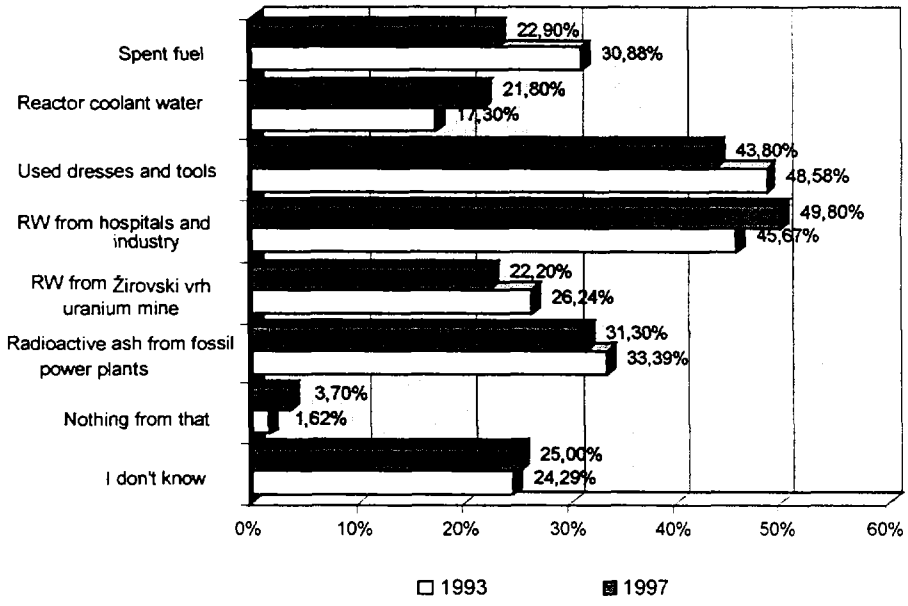
Reasons for the use of nuclear energy (Figure 3) also make more sense: it seems that people were more aware of low price, small environmental impact and energy independence.

Figure 3: What are the reasons for the use of nuclear power?



With the understanding of what is going to be stored in low level waste repository we can not be satisfied: almost one quarter of population believes there is going to be fuel, reactor coolant or ash from fossil power plants in there, while another quarter has no idea about the content.

Figure 4: What will be stored in the low level radioactive waste repository?



If we compare Figure 5 with the similar one from the year 1993 [2], we can see that more people would be willing to live close to the NPP (28,7% compared to 25,1%) and RW repository (34,3% compared to 24,3%). On the other hand more people would be willing to live close to the fossil plant (36,3% compared to 33,4%).

Figure 5: 1997 - How acceptable is it for you to live in the vicinity of:

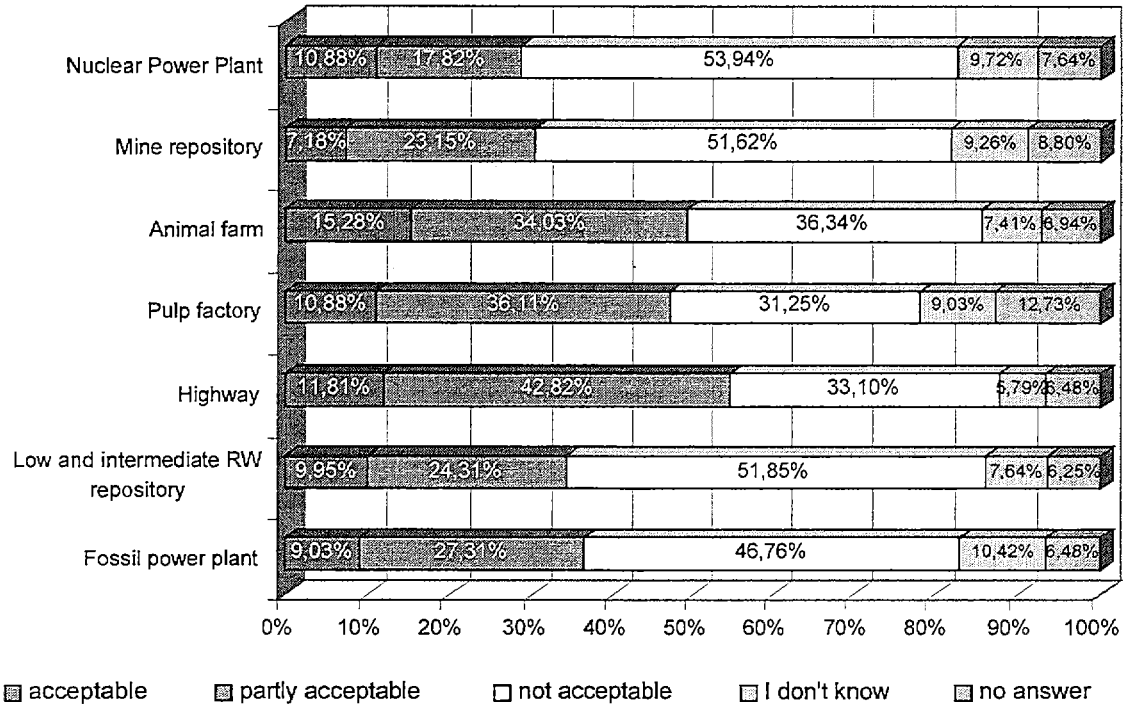
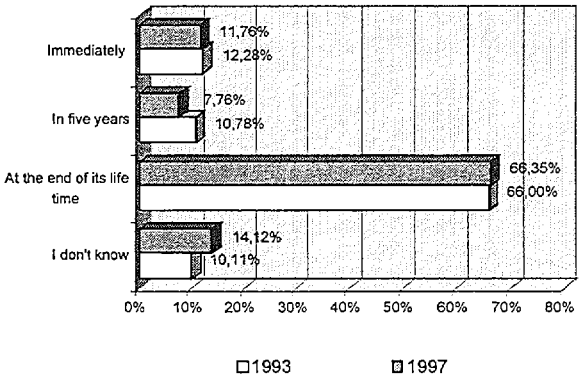


Figure 6 shows the answers to the perhaps most interesting question. Number of supporters has remained almost the same, while the number of opponents has decreased on account of undecided.

Conclusion

Nuclear power is not the largest headline in Slovenia anymore. The influence of that can be seen also on public perception. Our poll of young people shows their better and more favorable perception of this way of energy production than in the past.

Figure 6: When should NPP Krško be shut down?



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Nuclear Energy and Politics in Russian ATWS Conditions

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Relations between politics and nuclear power in the countries of «sustainable development» has been many times discussed during the short history of nuclear energy, and regularly arising new events, even very important (in Sweden, USA, etc.), just add to the formed understanding of the problem. Russia for 10 years lives in conditions of a transition period, which seems similar to ATWS-type accidents at nuclear power plants. In these conditions the effect of politics on nuclear power and vice versa are seen very clearly, and, more important, change swiftly, which may present interest for the countries with smoother public processes.

In the communist time of the Soviet Union nuclear power has been a decorum of the system's facade (first NPP, first atomic icebreaker, etc.). Chernobyl and Perestroika have upturned the situation, not only freezing development of the country's nuclear program, but making nuclear power responsible for almost all the troubles of the former-USSR peoples.

About 10 years have already passed since the time of total denial of nuclear power. Now there is a period, when, in conditions of ending economic crisis and doubtful political stability, the influence of present-day political processes and their trends on the fate and development of nuclear energy, as well as the use of nuclear power problems for political purposes, change considerably.

The role of political processes in nuclear power is obvious and may be reduced to three main factors:

- change of political system and transition to market economy have put nuclear power, though still within state sector, in absolutely new economic conditions, which determine its today's situation as «survival»;
- new possibilities of political influence and opposition to nuclear power (mainly struggle against construction of new nuclear fuel cycle objects) on all levels of authority (local, regional, federal);
- impact of the USSR collapse on the situation in Russian nuclear power was due sooner to temporary weakening of control and regulatory structures, than to the fact, that some fuel cycle elements have found

themselves abroad (the factor of uranium resources' loss is unimportant at present).

More interest is presented by the dynamics of using nuclear power itself for political purposes, where *the switching of impact direction* is most important.

At the beginning of the 10-year period (late 80ies - early 90ies) this direction was definitely negative. Struggle against nuclear power has served as a starting point for many Russian politicians. A bright example - «young reformer», first Vice-Premier and Minister of Fuel and Energy in the present Government - has begun his political career as a regional governor after his promise to ban launching of already built nuclear power plant. Anti-nuclear slogans have been successfully used during creation and establishment of major political movements («Sajudis» in Lithuania, Olzhas Suleimenov movement in Kazakhstan, «Rukh» in Ukraine, etc.).

Today everything has changed. Nuclear power is used in large Russian policy *with other direction* of attitude. Important politicians may use separate acute nuclear problems (nuclear materials' control, nuclear submarines' utilization, etc.), but do net let themselves to criticize nuclear power as a whole. Nuclear power arguments more and more often become an instrument of political questions' solution.

- Nuclear safety was chosen to be the subject of Moscow 1996 Summit, initiated with the purpose of Russia coming closer to G7. The Summit has confirmed the thesis on the possibility of nuclear power «to play an important role in the world energy demand in accordance with sustainable development goals».
- Successful activities of Russia-USA Commission for economic and technological cooperation, known as «Gore-Chernomyrdin» Commission, is to a large extent determined by positive nuclear decisions.
- Eastern direction of Russian nuclear export (Iran, China, India) is used to demonstrate independence and multi-polarity of Russian policy.
- Nuclear power is obviously used in today's reintegration processes in the CIS (restart and support of the Armenian NPP, nuclear programs in Byelorussia and Kazakhstan, agreements with Ukraine).
- Opponents to the governmental course have begun to use «positive» nuclear arguments for their purposes (HEU-LEU agreement is criticized

as «squandering» of Russia's resources - uranium, which will be necessary in the future).

More examples may be given, but it is clear, that the period of «left-wing infantile disorder» in relations between Russian politicians and nuclear power is over. Now we see the beginning of important «direction switch» period on regional level (Ural, Chernozem zone, etc.). It seems, that the future of new Russian nuclear power program, developed according to the President's order and considered at present by Russian Government, will depend on the development of this process.

CELEBRATION OF THE RADIUM AND POLONIUM DISCOVERY AS A PROMOTION OF NUCLEAR ENERGY IN POLAND

Stanisław Latek - Polish National Atomic Energy Agency

In the recent years we have been celebrating centennials of great scientific discoveries, especially in the field of physics.

Let's recall: in 1895 x-rays were discovered by W. Roentgen. In 1896 H. Becquerel found that uranium salts spontaneously emit invisible radiation which penetrates opaque substances, interacts with photographic plates and ionizes the air. In 1897 an electron was identified by J.J.Thomson. The next year will mark hundred years since the discovery of two new elements, polonium and radium made by Marie and Pierre Curie. Since 1996, in many countries, especially in France, numerous conferences, symposia, scientific sessions and exhibitions have been organized, on the occasion of those anniversaries.

Poland, which is M^{me} Skłodowska-Curie's country of origin, and which gave name to one of the elements discovered by her (polonium), has planned especially festive celebrations. All of them scheduled for 1997-1998, have been and will be conducted under the auspices of the Polish Academy of Sciences. A Honorary Committee was appointed, with President of Poland Aleksander Kwaśniewski as its chairman and Professor Joseph Rotblat as one the members. The Organizing Committee has been led by the Vice-President of the Polish Academy of Sciences. The celebrations have been sponsored by UNESCO and ICSU.

The radium and polonium discovery centennial was inaugurated in April 1997. The first event was a Polish-French show of scientific documentary movies on the uses of ionizing radiation and nuclear power.

A symposium *Radiation - History and Modern Times* was organized in spring 1997. It was a special event, held in Łódź, the seat of the Interdepartmental Institute of Radiation Technique, a major university radiation research centre on international level. Nuclear research in Łódź was initiated by Professor Alicja Dorabialska, a student of Marie Curie. The symposium, attended by university presidents, national and local government officials and students, included a comprehensive, well documented paper on safe nuclear energy.

Many other interesting events were held throughout 1997. Warsaw hosted an interesting exhibition *From the Radium Needle to the Medical Accelerators.* A seminar and an exhibition on *Radiation Technique in Environmental Protection* were organized in cooperation with the IAEA in Zakopane. The Council for Atomic Energy initiated and conducted a workshop on *Radioactivity - Risk and Hope.* The Polish Academy of Science and the Society of Nuclear Medicine organised a symposium on *Polonium and Radium Discovery Impact on Medicine, Radiation Protection and Medical Industry.*

The National Atomic Energy was the initiator of film shows held for school youth, which turned out to be a great success. The youth, mainly from schools bearing the name of Marie Curie, had an opportunity to see films about the great scientist and her discoveries, and on the very phenomenon of radiation. They also had a chance to visit Maria research reactor in the Institute of Atomic Energy in Swierk. The reactor, named after the famous scientist, turned out very popular. A similar event is planned in spring 1998. All the participants of the shows and excursions received a book on Maria Curie-Skłodowska and other materials on ionising radiation uses. The teachers pointed out that the young generation responds to information on radiation in a normal way, without showing particular fear or anxiety.

This observation was confirmed by the scientists who prepared the set of exercises presented during the 1st Science Festival in Warsaw. The Festival participants were offerred to make, on their own, measurements of the radioactivity of caesium-contaminated mushrooms after the Chernobyl accident and of the radon concentration in the laboratory rooms. Older participants of the experiments showed greater distance towards and concern about nuclear phenomena and handing devices using radiation sources.

Various societies, associations and scientific foundations held their congresses with the focus on the effects of the radium and polonium discovery and on the contemporary state of knowledge in the different fields of science and technology which developed thanks to the discoveries of Marie and Pierre Curie. A number of titles referring to the anniversary of the radium and polonium discovery were published, youth competitions and popular public lectures were organized. A special postage stamp and memorial coins and medals were issued.

Now, at the beginning of February 1998, a three-day scientific session is being held in Warsaw, to commemorate the radium and polonium discovery. Many other events will take place in the coming months. In particular, in June 1998, an international conference on *Nuclear Physics Close to the Barriers* will be held. Another conference, closing the centennial celebrations, is planned for September 1998. Sponsored by UNESCO it will bring together Nobel Prize winners in physics, chemistry, medicine and peace. We expect about 40 of them to participate in the conference. It will focus on the *Scientific and Philosophical Consequences of Discovery of Plutonium and Radium. Benefits and Threats to Mankind.*

The following sessions are planned:

(a) introduction, including speeches by officials (the President of the Republic of Poland among others);
(b) radiation uses in contemporary technology;
(c) the most important cognitive challenges of modern science;
(d) ethics in scientific research;
(e) energy - a major problem of the mankind;
(f) health and medicine - risk and hope
(g) environmental protection with a special emphasis on radiation protection.

We expect that the introduction to the discussion will be made by Nobel Prize winners. The additional papers will be prepared by Polish experts. The conference will be followed by public lectures at universities, institutes and scientific societies. The great prestige of scientists may help radiation perception in Poland.

In co-operation with the French specialists who organised a symposium on *Atom and Society - Science, Politics and Public Opinion* in 1986, a similar conference is planned in Poland in June. The organisers want to focus on the issue of atomic energy in the eyes of the public. How the public perceives nuclear power, what impact the Chernobyl disaster has had on the public attitudes, how the media influence the public, what the role of public authorities

- scientists, priests, physicians - is, what mechanisms are behind development of rumours on apparent nuclear accidents and symptoms of panic among the public.

All those events have been meant to stress, first of all, the beneficial aspects of Marie and Pierre Curie's work and discoveries. Marie and Pierre Curie not only contributed enormously to the modern understanding of atom and radioactivity but also laid foundations for further research, which led to nuclear fission and isotope production. It has been emphasized that both radioactivity and energy released during fission are useful to the mankind, serving human health and providing so much needed electricity. Radioactive isotopes produced in nuclear reactors replace radium, separated with such an effort by M. Curie. Such isotopes can be produced easily and in abundance. No wonder they are extensively applied not only in research, but also in industry, agriculture and other fields of economy, as well as in medicine. Every day the array of their uses grows wider. It may be hoped that a greater popularity of Marie Curie-Skłodowska, who is in Poland almost a national heroine, and of her scientific accomplishments will bring a change in the public attitudes towards atomic energy and in particular - towards nuclear power generation.

Public opinion polls, similar to those conducted in 1996, are planned for spring 1998. The 1996 polls, conducted 10 years after the Chernobyl accident, showed that the majority of Poles feared ionizing radiation and opposed the nuclear power plant construction. The great effort made by the scientific community and the organizers of the events inspired by the epoch-making discoveries of Marie Skłodowska-Curie and other researchers, will bring the desired effect, i.e., it will enhance research prestige, will increase the public awareness of ionizing radiation benefits and will alleviate the fear of radiation, if and only if the scientific community co-operates with media. The Polish experience shows that media have an increasing influence on the public attitudes and outlooks. Luckily, this fact is more and more recognized - also among scientists and people involved in atomic energy in general.

Education and Motivation

Marke Heininen-Ojanperä
IVO GROUP
Corporate Communications

ENS PIME '98

"How can our workforce be motivated in today's conditions?"

NUCLEAR EMPLOYERS MEETING THEIR EMPLOYEES' MOTIVES

In modern Western societies the employees' motivational issues are no more only their employers' concern. The pioneering, older generations in the nuclear field may share a sense of common depression. The "emulator" generation with 5 to 15 years of work experience may find they cannot see clear or similar career paths due to construction recession. Their skills may be harnessed in future decommissioning, only. Finally, the young people entering professional education with these signs around may opt for other competing trades already during their first years in college and university, although their capacity would be crucial in case of any new wave arising.

However, nuclear generation is a trade as any, even the safety concern can be seen as a facet of quality of the nuclear companies' service, which can be drawn in any situation from the customers or stakeholders. All businesses have life-cycles and only a few of us can ride the rising wave – the majority of us are either lagging behind or too early. This is not to deny the general responsibility of those wooing new people to the trade or having made earlier decisions. The motivational solution, if any, is to be found in celebrating the richness of the individual and local working situations.

With this idea in mind, we may summarise a set of constructive approaches for motivation:

- The complexity of the work and technical condition at nuclear plants
- Certain exclusiveness of the work
- Heritage of good working conditions and quality philosophy
- Large risks that can actually be managed at everyday work
- Certain general environmental benefits
- Heritage of global aspects in networking
- The promise and new learning of new user-countries
- Scientific emphasis
- Waning Big Science approach
- Many nuclear plants are situated in impressive settings of nature

Finally, there is also a set of de-constructive, motivational factors:

- The quest of high, total availability as basic load power excludes a quest of "market adjustment" i.e. a flexible operational frame

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- The requirement of a over-massive human capacity in foreseeing the change of society and the future
- Other trades – even agriculture – have become more scientific
- Nuclear power as a deterring, major symbol of general economic development and growth – any others available?
- Very few fashionable modernity features, if any
- The customer may remain remote and abstract.

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ENVIRONMENTAL EDUCATION TARGETED AT SCHOOLCHILDREN AS PART OF *RADON*'S PUBLIC RELATIONS CAMPAIGN

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In the former Soviet Union, environmental problems as well as other negative social and political phenomena were hushed up. Under environmental transparency, the public was shocked by the disclosed facts, and the reason for this was the wrong presentation of the information.

Radon (the company engaged in collection, transportation and disposal of Moscow and Moscow Region radwaste) was also severely criticized. The thing is that *Radon* has the word «radioactive» in its full name. That was enough for the prejudice to be formed. The public perceived *Radon* as the company polluting the environment instead of protecting it.

The transfer from full secrecy to public information proved to be a serious test for *Radon* specialists. A huge effort was needed. We started to organize shows and conferences, to write articles, to make radio- and TV programs and video films, though we were well aware how difficult it was to reverse the unfavorable public opinion.

That is why three years ago we decided to develop large-scale information campaign targeted at young people. Such work cannot bring positive results in the near future, it is a long-term effort. At first we held several meetings in Sergiev Posad schools (*Radon*'s main branch, a repository and a radwaste treatment plant are located near this town). Children showed interest in classes attended by *Radon* lecturers, and we decided to join in the *Eco-Kray* (*Eco-Land*) Environmental Program coordinated by the Youth Creativity Center of Sergiev Posad. We believe it is extremely important that radioactive waste and safe use of atomic energy is on the general list of the problems relating to environmental protection. In our discussions with young people, we treat the problems of preservation of forests and rare animals and radwaste immobilization as the single one.

To implement the program, the first step should have been the teachers' training. It turned out that most of them had quite limited ideas about radiation, the use of nuclear power in Russia, and they had not heard about *Radon*. We organized teachers' training seminars and tours to the test ground. Our funds are scarce, as *Radon* still does not have a special budget for public information campaign. Despite this, we have managed to make teachers' tours quite comfortable having solved all problems relating to transportation, provision with meals, special-purpose clothes and dosimetric devices required for visits to radioactive waste zones.

Formats of work with young people depended on their age and preparation. The following formats were used: a lesson - lecture - conference - a practical assignment (work). On-site lectures and video film demonstrations proved to be the most efficient format. Quite often we did practical assignments: school children measured the radiation background in their class, or a hall (a chair), or a school yard. We also try to get the feed-back asking the students all kinds of general and specific questions relating to environmental protection, to see their level of understanding.

In the course of training, the following topics were touched upon:

1. What is radiation as physical phenomenon?
2. Natural character of radiation.
3. Scientific and technical progress and radwaste emergence.
4. Radwaste immobilization.
5. Radwaste storage.

Graphic materials were prepared to present the complicated technical issues in an easier, visual form.

It goes without saying that we try to make such lessons as less boring as possible, taking advantage of any opportunity to make a joke or to tell a funny story.

Schoolchildren like to play, and the play is the easiest way for them to assimilate the material. To raise their interest in environmental protection, we organized the brain-ring (a contest between school teams competing for better knowledge of environmental protection problems), and the competition of environmental drawings (the non-stereotyped way of thinking and the accuracy in the assessment of the environmental situation, and not the skills,

were the basic criteria of the evaluation). The winners were awarded with prizes and presents.

At the beginning, we lacked experience in conducting an information campaign targeted at the public in general and young people in particular, and we asked our West European colleagues to help us (for example, we approached Electricité de France specialists) and they gave us their valuable assistance.

We made up a questionnaire and conducted polls as a follow-up to our tours and lectures. The polls showed that the majority of the respondents had considerably improved their opinion with regards to *Radon* activity. They have started to treat the *Radon* location in their region with understanding and to positively assess the use of atomic energy in peaceful purposes.

There are several positive aspects in such environmental education effort targeted at schoolchildren.
First, soon schoolchildren will grow up and participate in the elections, and it is good that they have received accurate information with regards to radiation, nuclear power and *Radon* activity as early as being at school.
Second, not only schoolchildren, but also teachers receive the information from a reliable source, and the opinion of the latter is trusted and valued.
Third, adolescents are extremely sociable and inquisitive. They will share the new information with their brothers, sisters, friends, raising the number of enviromentaly-aware young people. Thus, we have a chance of influencing their parents in an indirect way, as children will tell them about their new knowledge. (Any of us is well aware that the information received from informal sources has a strong effect on us).

These three important aspects make us channel our efforts and funds to the education campaign targeted at schoolchildren.

We hope that in future we will not have to waste so much effort to overcome the mistrust of the local public. As a rule, it is not based on real facts: it is the result of poor access to information or even ignorance.

Five years of an educational programme - results and experiences

School teachers and pupils constitute an important group having the ability to listen, understand and help to create positive ties between the public and a utility. Therefore, ČEZ spends a part of its revenue arising from the sales of electricity on education.

ČEZ´s information and education programme named „Energy for everybody" has been used by Czech schools for five years now. The main part of this educational programme is devoted to nuclear energy.

ČEZ materials for schools include: printed information, supplements to textbooks, videotapes, computer programmes, CD ROMs, an educational set for experiments with ionizing radiation, posters and other assorted materials. Schools are invited to visit Czech power plants and other facilities of the power sector (for example the experimental reactor at the Prague Technical University). Seminars and workshops are organised for teachers. ČEZ offers objective information on all activities associated with energy generation and uses and the relationships between man and nature. The prices of our informational materials are rather symbolic, they come to one-tenth to one-third of the actual cost.

ČEZ is the only industrial company offering such a large-scale educational programme for schools in the Czech Republic. Materials are distributed to nearly 7 000 primary and secondary schools and 30 university departments. We have agreements with several schools which have committed themselves to testing our materials. Several dissertations and studies have demonstrated the usefulness of our materials for education and the contribution this information has made to the better understanding of nuclear energy.

We have organised polls in order to ascertain how the schools liked the materials, what additional things they wished and what their view of nuclear power plants and ČEZ was. The outcome has been unexpectedly favourable. In my contribution I will present the results of these polls and examples of successful activities made for schools.

Marie Dufková

Posters

IVO GROUP
Corporate Communications
Marke Heininen-Ojanperä

ENS PIME '98

Poster of

COMMUNICATIONS HIGHLIGHTS OF THE FINNISH NUCLEAR INDUSTRY IN 1997

The Poster will contain two major issues i.e. description of the Information Centre Renovation Project at Loviisa Power Plant and a presentation with material of the Sunray III Project.

The Sunray Project

The Sunray Project is a national radiation project intended for all ninth graders in the Finnish school system. The project started two years ago. Attention has been focused on the topic of radiation. The topic has been dealt with in connection with different subject as history, English, Swedish, French, Finnish, mathematics, physics, chemistry, geography, health and home economics, as well as vocational counselling.

The aim of the project is to provide extensive information on the subject of radiation and radioactivity, to investigate benefits and disadvantages and to help pupils understand units and see things in correct proportions.

Sunray I focused on radon, Sunray II on light. Sunray III will start this autumn and its main theme will be risk perception. The programme of the Sunray III is structured as follows:

Part One: Articles on risk provided by experts from different fields.
Part Two: A risk management game
Part Three: A special view on natural radiation.

The project is coordinated by Economic Information Bureau in cooperation with the Finnish Centre for Radiation and Nuclear Safety and two major power companies Imatran Voima and Teollisuuden Voima. The coordinator of the Sunray III Project is Mr. Matti Lattu.

The Information Centre Renovation Project (ICRP)

The ICRP has been a two-year project which was completed for the 20th anniversary celebration of Loviisa Nuclear Power Plant in February 1997. The main emphasis was to harness the local natural environment as much as possible. The focal point of the project was presented by a new, large-sized map as a water-colour painting (a printed version), a bird-eye view of the Hästholmen Island

environment. The information signs system was completely renewed. A large sea-water aquarium containing local species of seafish was placed in the lobby of the power plant building. Finally, a nature path of about 800 metres in length was established, passing by the island's mascot, wild boar Siiri. The info-building's traditional presentation material was almost totally replaced in practice.

Ms Irkka Laukka, Information Officer at IVO's Corporate Services, was responsible for the project with an expert support group from the power plant.

In addition, the latest nuclear brochures and internet pages are displayed.

Výskumný ústav jadrových elektrární Trnava a.s.

vúje

Poster
VUJE activities in the field of nuclear safety

Nuclear safety concepts

- the development of conceptial problems of nuclear safety
- the presentation of nuclear power as a perspective part of future energy

Probabilistic safety assessment

- reliability analyses of systems and equipment
- PSA at Level 1 and 2

Thermo-hydraulic computer analysis

- transients processes
- accident situations in primary and secondary systems

Neutronics and measurements

- calculations of core neutronics characteristics
- calculations of fuel charges
- calculations for expansion of the interim spend fuel storage

Thermo-physical measurements

- measurements of thermo-hydraulic parameters
- evaluation of technical-economical performance indicators
- temperature measurement of reactor coolant

Analysis of operating events

- analyse events in plant operation at home and abroad
- feedback from operating experience

Daniel DANIŠ, MSc., PhD.
Head of Dep. Project
Management and Coordination

10th International Workshop on **Nuclear Public Information in Practice**, Maastricht, February 1 to 4, 1998

Communications in the Nuclear Regulatory Authority of the Slovakia

Mojmir Seliga

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The Nuclear Regulatory Authority of the Slovak Republic (ÚJD SR) as the state authority provides information related to its competence, namely information on safety operation of nuclear installations, independently from nuclear operators and it enables the public and media to examine information on nuclear facilities. The important aspect is proving that the nuclear energy in the Slovak Republic is due to obligatory rules acceptable and its operation is regulated by the State through the independent institution - ÚJD SR.

ÚJD SR considers the whole area of public relations as essential component of its activity. ÚJD SR intends to serve the public true, systematic, qualified, understandable and independent information regarding nuclear safety of nuclear power plants, as well as regarding methods and results of ÚJD SR work. Communication on reactor incidents or more broadly on operational events at nuclear power plants represents a substantial part of public information. Generally, public information is considered as significant contribution to creation of confidence into the regulatory work.

A communication programme must be tested in practice. Our communication programme is regularly evaluated in emergency exercises held at the ÚJD SR. Inviting journalists to participate in or observe the exercises has intensified this, or by having staff members simulate the mass media and the public.

The communication means, tools and channels developed and enhanced during the recent years has increased the ÚJD SR´s functional capability to carry out its information policy. However, communication cannot achieve its goals unless the receiver is willing to accept the message. If the receiver is suspicious about the sender's intentions, good communication is almost impossible. Maintaining the trust with the media and the public as well as increasing radiation and nuclear safety knowledge in the society is therefore essential.

All ÚJD SR communication and information activities presented herein aim to creation of public confidence, favourable ÚJD SR image at home as well as abroad.

NucNet's Growing Impact on the Media – Now the Official Figures!

Jack Ashton and Chris Lewis, NucNet Editors

The growing impact of NucNet on the news media has been a topic highlighted at previous PIMEs.On a couple of occasions, concrete examples have been given of NucNet being used by journalists writing about nuclear energy issues. These have consisted of newspaper clippings and copies of news agency reports. Some instances of NucNet material being used by the broadcast media have also been reported on.

It should be pointed out that we are talking here about evaluating NucNet's worth purely on the basis of news stories carried by news agencies and newspapers which actually quote NucNet as a source.

It is impossible to monitor and measure the full impact and influence that NucNet has on the reporting of nuclear. From the NucNet Central Office in Berne, it is not possible to see everything that goes on – to see how all network members pass on NucNet material to their media contacts and to see the end results.

In addition, journalists are not under some sort of legally binding agreement to always quote NucNet as the source. There have been many cases where it has been clear that NucNet material has been used without NucNet being quoted directly by name.

NucNet also influences the news judgement of journalists. For instance, a news editor might be inclined to go for a nuclear story that takes a particular (anti-nuclear) line provided by Greenpeace. But that person might have second thoughts on seeing the version of the same story supplied by NucNet, providing original information from the source directly involved. The news editor then has the opportunity to see both sides of the story and make a more accurate evaluation. With the additional information from NucNet, the result could be a properly balanced news story, or the news editor could decide to drop the story completely. Either way, we are talking about factors that are impossible to pin down and measure. In such circumstances, only case studies can be given. This means that so far the evaluation of NucNet's impact on the news media has had to be almost completely anecdotal.

Now, thanks to a comparatively new database search facility, the NucNet Central Office team is able to track instances in which NucNet has been quoted as the source for a news story or magazine article. The database is run by Reuters, but contains information from a wide range of other news sources, such as national news agencies and major national newspapers.

A search of the database, carried out on December 10th 1997, produced 42 cases of NucNet being quoted by name over the previous three years. There were five in 1995, 13 in 1996, and 24 in 1997. No fewer than 15 of the 24 cases in 1997 occurred in the preceding six months. It takes no great mathematician to see that each annual figure is roughly double that of the preceding 12-month period.

We can at least see every instance of NucNet being quoted by Reuters, but this of course does not cover the other major international news agencies, such as the Associated Press, UPI and AFP. This underlines the fact that NucNet Central Office and the NucNet Board rely heavily on individual network members spontaneously reporting examples of media use. The results obtained recently, showing regular and fairly frequent use by Reuters and the print media, but the figures do not give the full picture.

If the database, known as Reuters Business Briefing, acts as some sort of barometer measuring NucNet's impact on the news media, we cannot say exactly what the weather is like – but at least we can say that the barometer reading is on the increase. And for once we can give definite figures.

MORE KNOWLEDGE LESS FEAR

Mirjana Čerškov Klika
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APO-Hazardous Waste Management Agency
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The idea of sustanable development includes the obligation to manage radioactive waste in such a way that it makes no problems to the coming generations. However, things are not so simple and clear when the realization of this idea is attempted. There seems to be acceptable solution for radioactive waste disposal, though technical and financial aspets are relatively. The main problem is public acceptance.

The hazardous and radioactive waste disposal facilities belong to the so-called "controversial facilities": although the public can theoretically accept them as environmental protection related facilities, everyone refuses the siting of such a facility in his vicinity ("NIMBY effect"). As it is known, this attitude of the public, which represents one of the most decisive factors in the entire radioactive waste management policy, has been derived from both the lack of information and doubts about available given information. In order to solve the problem , the activities of all participants involved in the radioactive waste management (e.g. citizens, companies, scientific institutions, authorities, ecologic groups and institutions) should be open to public. All these participants should be involved in programmes which will enable them to make respectable decisions.

However, all sociological researches made up to now show fear of general public towards those facilities. Fear can be overcome by knowledge and proper information.

The aim of every public information and education programme is to build up confidence between the general public and those involved in waste management.

The poster presents activities of APO-Hazardous Waste Management Agency in the field of general public information and education.

APO-Hazardous Waste Management Agency is publicly owned national agency established to organize and perform activities related to

the hazardous waste management in the Republic of Croatia and to assist the governmental bodies in the implementation of the enviromental protection policy.

APO' s public information and education activities are:

- Issuing publications which would help the public to improve its education and information levels in this field. We started publishing booklets written by eminent experts in relevant fields. Final form of the booklets was defined in accordance with recommendations given by sociologists.

- Issuing bulletins. The APO recently started the issuing of the bulletin "APO-News" which informs on the current operations of the APO but also gives the most important information on respective events in the world.
  These bulletins and publications are distributed free.

- Recording video tapes for public information and education (distributed free of charge especially in schools):

- Organizing coferences, round tables and lectures by domestic and foreign experts which are referring to activities of the APO.

- Tours for particular groups (experts, journalist) to facilities of interest in Croatia and abroad, aimed at geting acquainted with relevant experiences and practicese in the world.

- Sponsoring environmentally related project. Particular attentation is given to school projects, and environmental protection projects of NGO. The APO has very good relationship with environmental NGO in Croatia.

- Informing mass media about all relevant activities of APO.

- Establishment of Information (Visitor) Centre. Each country which leads systematic policy of public informing and public involment into the site selection for controversial facilities, has developed well-organized information centre aiming to inform the public about the relevant facility, world experiences in the field etc. The APO has planned to open our centre before the end of the year.

- Elaboration of incentive strategy and programmes to local communities . There is a very limited exprience in incetive policy in our country. The APO has organized drawing up of the legal act of incetive for local communities where controversial facilities will be

sited. It is expected that the Government of Republic of Croatia will pass the act.

Working actively to informing and educate the public, and through its readiness to communicate with all the media, the APO has acquired confidence of the public.

To overcome fear and to build up trust with public is a long-term process. For this reason the APO - Hazardous Waste Management Agency as well as similar organizations are required to organize comprehensive and realistic educational programmes, promoting the public into respectful party, expected to be competent for decision making in any of numerous sensitive issues related to waste management specially hazardous and radioactive waste. It is supposed to be the most acceptable approach which contributes to improvement of mutual confidence and respect between experts and the public. At the same time it is also a prerequisite for implementation of better and more efficient environmental protection programmes. It is obvious that such a positive tendency cannot be maintained without creation and performance of an honest, correct, synchronous and complete public information and education programme.

ENS PIME-98

10th International Workshop on Nuclear Public Information in Practice
1-4 February 1998, Maastricht, the Netherlands

Comparisons of the Risks and Potential Detriments of various Energetic Alternatives as a Basis for Adequate Public Acceptance – looking for new ways of communication.

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1. Public Acceptance of Nuclear Power.

It is widely adopted that modern energy production technologies (and a nuclear power among them) have to be economically attractive, safe enough, provided with resources and publicly acceptable. In such case they could be convinced of winning the competition with other technologies in the future

But now nuclear industry is going through a period of stagnation. After the euphoria of 70-th the catastrophes on TMI-2 and Chernobyl have affected very seriously on the rate of the construction of new plants and changed drastically a public perception of nuclear power problems. Later on an unacceptance of nuclear power is spreaded and became a real obstacle for nuclear progressing in some countries. Now only in South-East Asia it can see some development in atomic area.

Of course, the objective advantages of nuclear power such as

- practically unlimited the resources of the fuel,
- small transport and operation expenses,
- nonconsumption of the oxygen ,
- neglected releases of greenhouse gases,

are indisputable and will determine in the future the real scale of nuclear energy production.

But now a problem of nuclear energy unacceptance is seems very hard to be resolved.

To change a situation and ensure the approval of nuclear power in the society it needs to shatter the myths about extraordinary danger and risks of the nuclear energy.

A dramatic example of over-estimation of the impact of the radiation on the health of population is a Chernobyl case. A great contribution in a multiplica- tion of the rumours, an artificial exaggeration the scale of the accident were made by the newspapers, journalists and politicians.

As it can be observed in the reports [1, 2], a real accident scale has corresponded a large industrial misfortune, but the latest post-accident counter-measures, mass relocation in particularly, have been excessive and created enormous non-radiation detriments. These last consequences have created the Chernobyl myth as a global disaster. Clear reassessment of the results of that big nuclear accident is assumed to help getting more public acceptance of nuclear energy.

2. The Risks and Detriments .

The modern decision-making is based on a comparison the alternatives to find optimal way of resolving the problems. Taking into account the positive and negative factors influenced on public and environment it is possible to compare various scenarios of energy development in the country.

In the analyses of the development of energy technologies such factors as a pollution, waste, accidents with impact on health and environmental well-being are the very important arguments in the energy policy choice. In assessment of real consequences and a comparison between different energy scenarios it could be considered that the risk indices and in particularly the changes in life expectan-cies are proper factors. A selection have to assure such social consequences as the positive changes in life expectancies. Best case has to promise a biggest increase of life expectancy.

It is possible to believe, that the comparison between energetic alternatives, the results of analyses of the various risks and potential detriments will be favourable for nuclear power. The information of the society about such analyses can be considered as a right way to change public attitude and win a public acceptance.

But what is a risk?

In English a word "risk" has double meaning of the nature of a harmful event and the probability of the event [3,4]. Now it is adopted to notify the risk as a proba- bility of some detriments, harmful consequences some event. But for very seldom event the value of the risk is very small and not easily to be assessed. Very often a risk is considered as a probability to perish, to loose the life. But everybody will be at a loss if he or she will be informed that a mortality risk of motor-cycling equals 3.10^{-3} per year. That is why it was proposed to describe the dangerous sequences with a more understandable term, a loss of life expectancy [5]. This term means the duration of the life, which can be expected to be lost from some event or a situation. Causes of loss of the life can include the diseases, accidents, air pollution, natural hazards, socioeconomic factors, Rn and other radiation etc.

A general methodology of risk analysis is presented in many publications and in particularly in [6] .

For risk analyses the demographical data have to be used, so called life tables and the values $\mu_i(a)$- death rates for a person at the age a from specific i-th cause have to be determined. The survival function $H_i(t)$

$$H_i(t) = \exp\left(-\int_o^t \mu_i(a)\,dt\right)$$

is defined as the probability that a person will escape the death from i-th cause during the period of the time t from the birthday or from all causes as

$H(t)=\exp(-\int_o^t \mu(a)da)$ -

where

$\mu(a)=\Sigma\mu_i(a)$- a sum of death rates from all causes for a person at the age a .

The total life expectancy is calculated as $T = \int_0^\infty H(t)dt$.

For the persons at the age a the probability to be alive τ year more can be calculated as

$$H(a,\tau) = \exp\left(-\int_a^{a+\tau} \mu(t)dt\right) = H(a+\tau) / H(a)$$

A life expectancy for a person at the age a equals $T(a)= \int_o^\infty H(a,\tau)d\tau$.

A loss of life expectancy, caused by action of the i-th given factor is determined as

$$\delta T_i = \int_0^\infty [\, H^{(i)}(a) - H(a) \,] da$$ - where $H^{(i)}(a)$- a survival function without

i-th death cause. Such analysis can be made for assessment quit different acting factors- from impacts the smoking, air pollution, accidents, unemployment up to radiation. A very detailed review of such estimations is presented in [6].

For us it is important that such approach can be used for a comparisons between energetical alternatives, for a comparisons the detriments and benefits of some activities.

3. A Chernobyl accident consequences .

In the framework of Chernobyl research programs some assessment of efficiency of post-accident counter-measures have been made [2,]. The calculations were based on Risk Analysis Methodology (MAR) and Data Bank (BARD). As an example on Fig .1 an annual cancer mortality for population of Bryansk region is presented. It can see that a contribution of radiogenic cancer is rather small. But an influence of the non-radiogenical factors, connected with relocation, changes of life stile were very large. Such relocation has been undertaken as a result of adoption a very low level of the intervention criteria, just made in the atmosphere of radio-phobia. These actions could be considered now as a result of misunderstanding, mental sensitivity to rumours. It is important to remember that these time the autho-rities have been worried with election troubles and therefore have executed all possible actions without realistic assessment the consequences.

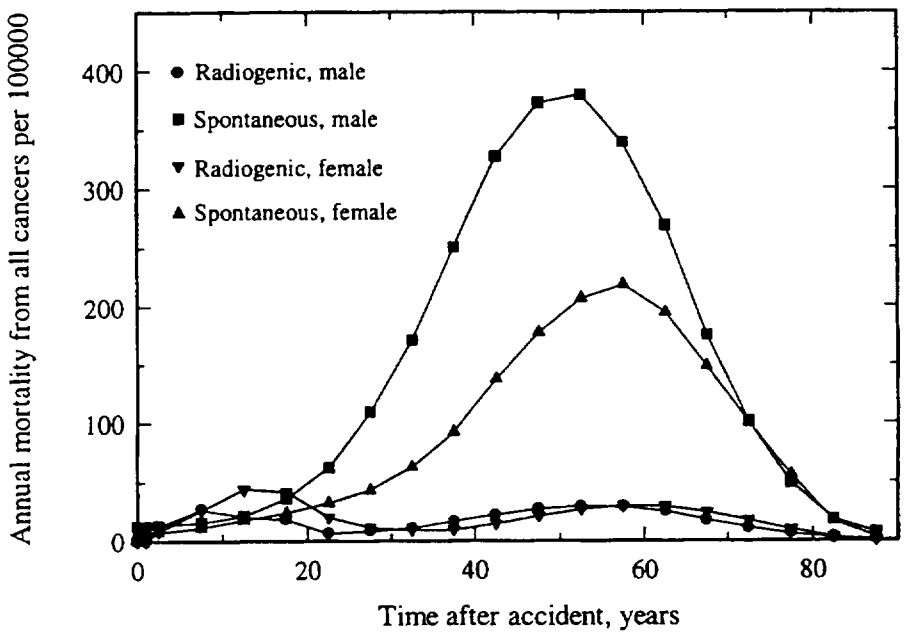

Fig 1. Annual mortality rate from spontaneous and radiogenic cancers due to the Chernobyl accident per 10^5 person at the age 0-18 year at the time of accident as a function of time after accident.

4. The risks and benefit of future energy production.

Just before end of our age a lot attention are being paid for forecasting the futureand an energy production trend in particularly .Typically it is declared that energy production will be

twice relatively the up-to-date level during next 50 years. But much concern is expressed about harmful greenhouse gases. Which way will be chosen by energy producers?

In assessment the impacts of different energy scenarios a Catalog of Risk proposed by B.Cohen [5] can be used. There an estimation of the loss of life expectancy is given for various harmful factors for USA conditions ten years ago.

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Video Summaries

SiP

VIDEO

to be shown at PIME '98

Title: THE IGNALINA NUCLEAR POWER PLANT

Time: 11 minutes

Language versions: English, Lithuanian, Russian

Producer: LETREL BILD AB

Made for: The Ignalina Information Centre

Financed by: Swedish International Project Nuclear Safety

PURPOSE:
To be shown at the visitors'centre, at schools and institutions.

TARGET AUDIENCE:
General public.

SUMMARY

Early morning in Vilnius, where people are awakened by a popular radio station and go to work by public transport driven by electricity. Over 16 billion kilowatt-hours of electric power are produced in Lithuania every year: no enterprise and no man could do without electric devices.

Scenes from the Lithuanian National Park, where the Ignalina Nuclear Power Plant is situated. It produces over 85 per cent of electric power in Lithuania and uses the most powerful reactors in the world.

Illustration of how the nuclear power can be obtained from the chain reaction of uranium fission.

Five thousand people work at the Ignalina NPP. At the central control room we meet specialists with very high competence. A shift supervisor explains how their team is formed .

Illustration of how an RBMK reactor functions and how electric power is generated. View of the reactor's protective lid and of an operator-controlled fuel reloading machine. An operator talks about the reloading machine.

The hall of turbines. Storage of used fuel assemblies in pools and later in special containers.

The cooling water is returned to the lake Druksiai. Monitoring of all air and water from the plant to prevent contamination of the environment. Personal dosimeters used by the staff and controlled by the plant, under the supervision of the State Nuclear Power Inspectorate, VATESI. Utterance by VATESI's representative at the plant.

Viktor Shevaldin, the Director General of the plant, talks about nuclear energy.

Vilnius in the evening. The lights of the city start turning on: it is the electricity from the Ignalina station that provides people with the feeling of comfort and warmth.

NUCLEAR ELECTRIC VISITOR CENTRES
INNOVATION AND INSPIRATION

This eight minute video demonstrates the approach taken by Nuclear Electric to exhibitions that are open to the public.

The information is given both visually - with excerpts from some of the attractions on display at the centres - and in comments from interviews with visitors, the centre guides and the man responsible for many of the exhibits featured in the video.

On one side are the schoolchildren who are visiting the exhibition and are seen both playing and learning as they press buttons, watch videos, 'meet' Michael Faraday, and learn about radiation - its disposal and its safe transportation. The headmaster of the school is interviewed and explains that the exhibition is helping his children understand the importance of electricity to their world.

On the other side is Jackie Lucas, the visitor centre manager, explaining what the public make of the exhibition. We see her staff greeting the children and helping them to understand the show. The designer of the exhibition, Len Upton explains how you go about making an exhibition such as this both informative and fun. Also interviewed is the man behind many of the exhibitions featured at Nuclear Electric's visitor centres up and down the country, Nicholas Mullane. He explains the purpose of the exhibition and what messages it imparts.

The video is presented in split-screen or composite format, whereby the interviewee and children are often presented together. Excerpts from the various videos on display are presented as both how they are seen from the floor, as well as the full screen effect of the various programmes.

The video gives much of the feeling of fun to be gained at the exhibition, as well as showing the educational benefits to be gained from a couple of hours at one of Nuclear Electric's visitor centres.

Copies of the video can be obtained from Bob Fenton at Nuclear Electric. (Fax: ++ 44 1 452 652 443)

Summary

Une Centrale dans le Vent

presented by Alain Kespy

Wind conditions required for aeolian energy are not very favourable in Switzerland. Nevertheless, there are some suitable places for a wind turbines complex. That's why Mont-Crosin situated at 1'200 meters above sea level, in the Saint-Imier area of the Swiss Jura, was chosen.

Last spring, three wind turbines, each of them generating 600 kilowatts, were constructed. The generator produces a voltage of 690 volts AC, injected after conversion into the local 16'000 volts network. The power station opened in autumn 1996, was inaugurated in May this year. Its annual production is estimated at 1,8 MWh.

This movie shows the construction of this exceptional installation. The concrete foundations have a volume of 100 m3 per tower. The nacelle as well as the generator are situated in 45 m height. The rotor with its variable blades has a diameter of 44 m.

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