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PUBLIC ACCEPTANCE IN SOUTHERN AFRICA

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SUMMARY

The paper deals with public perceptions of nuclear power. These perceptions were shaped initially by the worlds violent introduction to nuclear power when the first nuclear bombs were exploded during 1945. Public perceptions have deteriorated due to the Three Mile Island and Chernobyl accidents. Although there are signs of improvement the nuclear industry internationally is facing opposition, a situation which also obtains in South Africa, although to a lesser degree. Public concern in respect of fossil fuels have lessened the pressure on nuclear power.

The nuclear industry, in the public's eye, has an unfortunate past history. One has to accept that the public - like the media which serves it and, to a large extent, governments the world over - is scientifically illiterate. In this country this is particularly true. Not one major newspaper has a science editor and the national science scene is almost totally ignored by the electronic media.

The public is suspicious of science and scientists, particular nuclear science and nuclear physicists.

Nuclear science, in the public's eye, was not born out of the heroic experiments of Chadwick, Fermi, Bohr and the rest - it was born out of a brilliant flash in the sky and the instant roasting of thousands of people. The "power of the atom" was frightening - not reassuring.

The subsequent build-up of opposing nuclear arsenals did neither science nor governments any good and the East West stand-off - even though it has now cooled - left the public with the impression that scientists had no control over the use of the atom, and governments were not to be trusted with it.

Much the same could be said for the nuclear power industry. A great many people believe that industry in general, and the nuclear industry in particular, is manipulative, financially greedy, politically power hungry and environmentally capable of destroying "spaceship earth" for its own and the political/business establishments short term benefit and that it should be subjected to rigid control by concerned citizens.

Finally the secrecy which surrounded the atoms for peace programmes, the jargon of the nuclear industry and the sometimes unfortunate arrogance of the nuclear industry with its expansive promises about "energy too cheap to meter" and about the "hundreds-of-millions-to-one chance" of a serious nuclear mishap - these all tended to rebound on the industry.

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This has largely resulted from the nuclear industry's own public relations ineptitude. It was, as an industry, well meaning enough, but failed to "read" the public. Neither collectively nor individually did utilities take note of developing environmental concerns in the market place. There have been environmental and political scandals across the world which have seriously undermined the industry's credibility - and the media were neither slow in revealing these nor merciful. And this tended to drive the industry even more into a corner. It countered with repeated defensive claims about the safety of the product but you know the saying: "The more he spoke of his honour the faster we counted the spoons."

All things considered, it is difficult to say in the final analysis, which party failed to put across to the public of the undoubted benefits of nuclear power. Was it the media lack of scientific literacy and its practically ingrained suspicion, not to say bias? - or was it purely the fault of the nuclear industry.

Ironically, as the industry tightened security and safety procedures, sometimes being forced by legislation - or even its own volition - to go to ludicrous lengths, so the public became more alarmed. Today we have the situation where the ambient levels of radio-activity around coal-fired stations - although perfectly safe - would set off alarms at Koeberg.

Increased safety measures were usually seen as a tacit admission of extreme vulnerability. Self regulation, so often introduced by the industry in its bending over backwards to be seen as even more super-safe than the law expected, met with sharp criticism from the anti-nuclear lobby.

The public reaction to nuclear power has often been reminiscent of the way Victorians greeted the advent of electricity and the incandescent light bulb. It was viewed as something akin to magic. The difference was that electricity was demonstrated to the public on the dining room table - using a tortoiseshell comb and little bits of paper. Nuclear power was first demonstrated somewhat more violently.

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There was, before the Three Mile Island accident, signs that the anti-nuclear lobby was turning into a definable and limited minority and there was a growing widespread acceptance of nuclear energy.

Three Mile Island was a landmark in the story of the public's view of nuclear power: in the final analysis it was an economic disaster - it was certainly not a human one. It hurt nobody - but it wiped out the industry's profits in the US until well into the 21st century.

It produced a number of effects: It humbled the United States nuclear industry. It forced the industry to talk in terms the public understood. It ushered in a new and skilfull public relation phase which was more didactic than anything else. But that might have been just what the public needed. No more jargon, no more talking over people's head. Several laymen-friendly diagrams and lucid articles appeared.

The more intelligent (lay public) slowly recognised TMI for what it was - a grade test of nuclear safety technology. It succeeded with flying colours despite technicians doing everything they could to override the computer in the genuine belief it was malfunctioning.

Many people inside and outside the industry expressed the belief that in the final analysis TMI probably reassured the public that even in a potential worst-case disaster the situation can be contained.

Chernobyl was something else. The Star recently suggested it might have been a terminal blow for the future of the industry.

Certainly a second Chernobyl - even if, once again, it is the fault of shoddy workmanship which simply does not exist here - may well prove too much for the public.

In the developed countries of the world, the energy industry including the transport industry, is under increasing pressure from environmental groups. The use of oil, petroleum and coal is becoming unacceptable to more and more people, certainly as a long term solution to the energy crisis. The acid rain syndrome has now appeared in the Eastern Transvaal - at least there are suspicions of it. And the greenhouse effect is attracting the attention of world leaders. Whether the acid rain is mainly a result of coal burning or whether the greenhouse effect is definitely the result of CO₂ from coal is still a theory rather than a hard fact but the general feeling among politicians is that the risks are too high for governments to wait for irrefutable proof. Many people believe there will be stringent and enormously expensive control measures introduced internationally within 10 years. There is talk of an international convention which could well force big producers of CO₂ to reduce their emissions - and that would mean us.

At the same time the green lobby sees nuclear as unacceptable because of its wastes as much as anything and is jumpy about hydro schemes which frequently mean removing rural people from their traditional lands before it is inundated and the destruction of pristine areas.

To the people concerned by the activities of utilities the desirable alternative are:

ENERGY CONSERVATION - this is the most popular "alternative" and includes improving energy efficiency. Not nearly enough is being done in South Africa to conserve electricity and yet there are plenty of ideas to be had from the Northern Hemisphere. In Britain the Green Alliance is campaigning for a minimum 2 percent per year increase in energy efficiency throughout the European Community. But conservation/energy efficiency, while they will ease measures are not a solution in themselves - we will still need more power stations.

LOW GROWTH - There is a lobby, strong in Europe, which says low growth and even no growth and negative growth are sensible options. These options might make some sense were Zero Population Growth has been reached but do not fit in to our situation at all. Indeed, if South Africa needs to house all its people by 2000, and give them electricity, we need an economic growth rate of 10 percent a year. In the 1980s we grew only 1,5 percent.

SOLAR AND WINDPOWER - these are popular alternatives, especially coupled with energy conservation.

GAS - in the short term gas is acceptable as the emissions appear less harmful than those of other fossil fuel.

These alternatives have achieved a very large measure of popular appeal in the developed countries. While many people accept that conventional energy sources are and will remain important (for instance 80 % of Americans accept that nuclear power will be an important energy source in future), the majority would still prefer alternatives if the technologies were viable.

In the U.S.A the licensing procedures further complicate the issue. Most licensing procedures are subjected to constant review and decisions may be taken to the highest court of appeal. Licensing conditions are changed as political pressures demand. This has resulted in enormous delays in construction time. Utility executives are hesitant about embarking on expensive base load stations which could be prevented from operating after completion, even if they have complied with all the licensing requirements up to that point. At present the popular quick fix is gas turbines, although the utilities have ample evidence that they will be experiencing serious brown-outs in the near future and regular black-outs in the latter half of the decade. Most of them feel that no further P.W.R's of the present generation will be built and are placing their faith in the new generation of passive safety system, modular units which are at present being designed.

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The European situation is ambivalent. In a referendum Sweden decided to phase out their nuclear power stations by 2010. This represents 30 % of their generating capacity. They have decided that coal, oil and hydro-power are unacceptable and that the shortfall will be made up by a combination of energy conservation, North Sea gas (for a limited period only) and wind and solar power. Utility executives cannot see a solution to the undoubted shortages which will occur if the present policies are pursued. They are hoping that a combination of the retirement of the present Minister of Energy and pressure from the Unions, who are becoming fearful of losing jobs in a declining economy, may lead to the eventual modification of these policies. Ironically, the population is now subjected to higher levels of radiation than ever before due to the build up of radon in extremely well insulated houses.

With the exception of France, most European countries are holding fire on further energy development, especially nuclear. With low industrial and population growth rates this does not create important short term problems. Belgium, Holland, Switzerland, Italy and Austria will purchase power from across their borders, mainly from France. The Germans are very pessimistic about any increases in generating capacity in Germany and most utility executives feel they will probably also be buying increasing amounts of power from France. The longer term outlook is more serious as industrial development continues, albeit slowly, and existing power stations will obviously need to be replaced at some stage. A more immediate problem is the expected expansion of industry in the West as a result of increasing demands for products from the Eastern bloc, as well as increasing industrial development in the East itself. At present the Eastern bloc has enough generating capacity to handle a cold snap with temperatures down to -2°C , a not uncommon occurrence. Anything beyond that, requires that power be purchased from the West.

Eastern Europe's record in respect of both pollution and safety, especially in nuclear stations, is appalling by Western standards. Interestingly, "Green" political parties have been among the first to be established as a result of increased democratization, and in Hungary a large hydro-scheme on the Danube has already been blocked. It is interesting too that pollution is a major factor in the Estonian movement to break away from the U.S.S.R.. Estonia has been the area where much of Russia's heavy industry is situated, although neither the raw materials or the manufactured products are used for the benefit of Estonians. They have been saddled with a heavy pollution burden.

Increasingly these problems are spreading to the Far East. Taiwan has of late been subjected to anti-nuclear demonstrations and Korea and Japan have similar problems. The Japanese elections had a specifically anti-nuclear party contesting a large number of seats.

The pressures faced by nuclear utilities are often imposed by politicians, especially in countries where the utilities are private and non-centralised. In many countries utilities have evidence from public opinion surveys that the population is not actively opposed to nuclear power. The media, followed by politicians, are often swayed by very vociferous minority groups.

There is particular cause for concern when the interests of these pressure groups correspond, to the detriment of nuclear industry. (In many cases the membership of these groups overlap). For the nuclear industry the following groups and combinations of them are of particular concern:

*Anti-technology movements as these believe that higher levels of technology have led to increasing social disruption. They strive for a simpler life and wish to return to a society living in a state of "elegant frugality". These groups are often allied to a lobby who espouse a society in which all industry is in the hands of individuals, thus ensuring a truly democratic society in which large business concerns cannot dominate the economy or politics.

*The professional protest lobby which is largely an offshoot of the protest movements of the sixties and seventies. They have become interested in the energy industry via an interest in the weapons industry and nuclear power on the one hand, and environmental and citizens protest actions on the other.

*The more militant environmental organisation such as Greenpeace and Friends of the Earth.

*Distinct from the "Green" parties, there are a group of political lobbying and pressure groups such as the Green Alliance in Britain and Environmental Action in the U.S.A who strive to influence legislative bodies and individual politicians.

What then of the South African situation?

Generally speaking, trends in South Africa tend to follow those in Europe and the U.S.A some months or years later depending on the degree of publicity accorded them. This applies also to nuclear concerns.

Coverage of environmental matters by the local media has expanded enormously. The increase in the amount of environmental programs material overseas is reflected in our local electronic media. This is the most obvious on TV, where Good Morning South Africa, Carte Blanche, 50/50 are "green" orientated as are many of the magazine programs. Overseas programs reflect overseas concerns and these in turn are recognised here as having local parallels.

Inevitably public and media concerns are reflected in the political sphere, and there are vague signs that the White political parties are becoming environmentally conscious. (The other groups have more pressing concerns). A "Green" party has already been established. The Democratic Party has established a Green Forum and the government has committed itself to environmental action, based on the findings of an investigation by the President's Council.

Not all "green" groups are anti-nuclear. Many support nuclear power on the grounds that it is environmentally kinder than fossil fuels. Indeed, the manifesto of the new Green Party (Ecology Party) has announced it is keeping its options open.

With the exception of Koeberg Alert, which for all practical purposes had become defunct two or three years ago, South Africa had not experienced any serious anti-nuclear activity. They were most active in the late seventies and early eighties.

The situation has changed recently, with the de facto amalgamation of the remains of Koeberg Alert, SANE (Society against nuclear energy) in Pietermaritzburg, and Earth Life Africa, who have a significant anti-nuclear lobby.

They are taking a tougher stance than the previous anti-nuclear groups, and their major concerns closely reflect those of overseas groups safety, waste, radiation and so on. At present, their material is derived almost entirely from overseas sources, mainly Greenpeace publications.

There are signs of hope for the nuclear industry, however. With ever increasing pressure on fossil fuels, nuclear is becoming an increasingly popular option in many parts of the world, in spite of the remaining objections of some members of the anti-nuclear lobby.

Generally speaking, public opinion polls in various parts of the world indicate increasing acceptance of the necessity of nuclear power, even if it is viewed as a somewhat Faustian bargain. Public opposition must surely fall away as the costs of coal-fired power stations soar with the addition of desulphurisation units and CO2 extractors. In fact coal stations may soon equal, in capital costs, nuclear stations - and, certainly, their operating costs and waste disposal problems will far exceed those for nuclear plants. The public's reluctance to accept nuclear technology is only partly rooted in nuclear power's rather disturbing birth. This type of reaction is common throughout history whenever society was faced by new technologies.

We believe there is a future for nuclear power and that the public fears, already slowly evaporating, will disappear.

THE WAY AHEAD - SUCCESS FACTORS