INFORMATION FEATURES AND ACTIVITIES NEEDED TO BUILD PUBLIC ACCEPTANCE FOR THE FIRST NUCLEAR POWER PLANT IN INDONESIA

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ABSTRACT

The global tendency toward sustainable development and free market policies, combined with the fuzzy thinking of Indonesian people and the Indonesian anti-nuclear groups, provide an opportunity to formulate options to disseminate information and conduct related activities. Obtaining successful public acceptance depends on the spectrum of co-operation and achievement of mutual understanding between Nuclear Power Plant (NPP) vendors, relevant Indonesian institutions and the nuclear communities in ASEAN and Asian countries.

The most significant factor in getting good public acceptance of nuclear power usage is the proof that Indonesian engineers and scientists working with NPPs are competent and that there is a clear national benefit. However all information should be packaged in a proper way, suitable to public needs, and distributed in a way that makes optimal use of existing methods of distribution. The governmental and traditional social system methods of interaction cannot be avoided.

INTRODUCTION

Recently, the Indonesian government's plan to build the first NPP to supply electricity to meet demand has initiated controversy and conflict among the Indonesian people and public groups. The most popular public organization in environmental conservation, (WALHI), completely opposed this plan. Many other groups or public organizations were established following the announcement of the plan and they conducted anti-nuclear campaigns. In other words the growth of anti-nuclear organizations amplifies the opposition. One organization has demonstrated direct opposition through the name of its organization, the Indonesian Anti-Nuclear Society (MANI). It conducts many kinds of activities such as discussions, seminars, leaflet distribution and demonstrations. It not only develops its activities in one region but covers all important regions. It is able to direct its campaign at the people in and around the areas of the NPP candidate sites. Right and wrong information about NPPs has been communicated through its activities.

Since the early 1970s the Indonesian Atomic Energy Agency (BATAN) has been studying NPP usage to supply electricity to meet the increasing energy demand in the coming decade, following industrial progress and national development in all sectors. The Indonesian Ministry of Energy and Mines warned that energy resources were limited, so that necessitated efficiency improvements in all sectors of energy usage and in the development of diverse energy generation systems.

At the end of the 1970s, BATAN was optimistic that they would build the first NPP by the end of next decade or in the early 1990s. Since that time BATAN has initiated activities to promote the use of NPPs to the public, government organizations and people's representatives in the legislative body. BATAN was established and operated under the Indonesian Atomic Energy Act No. 34, 1964. This act gives BATAN the authority not only for everything related to atomic energy but also for control and regulation. Included in its authority was the NPP study as well as the promotion.

In April of last year, the Indonesian government signed the new nuclear act, namely the Act of Nuclear Power, No 10, 1997, that amended the previous act. In the new act, the authority is separated, control and regulation being vested in a different body, similar to the ones in developed countries. Another important development in the new act is the establishment of a Nuclear Power Board that is responsible for providing guidance and advice to the government on the importance of NPP usage for the national benefit.

The Nuclear Engineering Department was established in 1977 in Gadjah Mada University with cooperation between Gadjah Mada University and BATAN. Along with developing nuclear science and technology, the university is to provide nuclear engineers that are required by BATAN. In conducting engineering education and research, the department also disseminates and promotes nuclear science and technology information to the public.

Since the early of 1990s, there has been one NPP proponent public organization, namely Himpunan Masyarakat Nuklir Indonesia (HIMNI). This organization promotes nuclear applications for society. Membership is open to the public. Some print materials have been published by this organization.

Nuclear campaigns, either pro or anti in nature, are done continually but no clear results can be seen. Therefore nobody can say whether the public currently accepts or opposes the plan to use NPPs.

EXPERIENCE WITH PROMOTION ACTIVITIES

Nuclear science and technology campaigns conducted by the Nuclear Engineering Department are not the same as BATAN’s. The campaigns are not intended to create public opinion favourable to the NPPs but to articulate the reasons for using nuclear power from a science and technology point of view.

The Nuclear Engineering Department in Gadjah Mada University has conducted many campaigns in nuclear science and technology. These are grouped into direct (face to face) and indirect communication to participants. The direct communication is conducted by lecturing and subsequent discussion. The indirect communication is conducted by newspaper articles and broadcasting. The broadcasts are not purely indirect as the listeners have the opportunity to ask questions live over the telephone.

The promotional material is categorized into energy and non-energy aspects. The main topic in the energy aspect is the nuclear energy generation system and the back-end of the nuclear fuel cycle. The main topic in the non-energy aspect is radiation applications.

Participants in the nuclear science and technology campaigns consist of students or teachers of the senior high school levels, local public figures (outstanding persons in small communities), public organization representatives and local government officers. The composition of participants for each campaign activity is not always the same.

The responses of participants in every campaign activity were typical. The types of responses were:

- support for government policy pertaining to NPP usage
- support for government policy pertaining to NPP usage with messages
- support for NPP usage if everything related to NPP is the same with an explained NPP technology
- lack of confidence in national competence to operate NPP and to safeguard nuclear waste
- lack of confidence that using NPPs will lead to national prosperity
- opposed to use of NPPs

The messages that accompany their support of government policy are related to the prudence in planning, construction, and operation and the expectation of job placement for people in the project region. The lack of confidence in national competencies due to lack of confidence in national technical competence in building and operating NPPs and in safeguarding nuclear waste. This is related to the safety of their lives and those of generations thereafter. Those who do not believe that using NPPs would bring national prosperity is due to their lack of confidence in the safety of nuclear reactors and the back-end of the fuel cycle; and national independence of NPP usage pertaining to fuel and components supply and investment. This lack of support is amplified by the assumption that Indonesia has many other energy resources.

Classification of participants were based on the results of an Indonesian human anthropology study conducted by Kuncoroningrat, with modification. Kuncoroningrat classified Indonesian people into two different groups namely villagers and blue collar employees. Villagers are more numerous than blue collar employees in Indonesia. Classification of nuclear science and technology promotion participants was modified into four groups, namely villagers, students, private employees, and government employees. Villagers means people who live in a village and do not go to school. They work on farms or in the private sector without formal organization or without regular employment. The other three groups have common characteristics. Qualitative correlation between response types and participant groups is illustrated below

I villagers II students III private employees IV government employees

RESPONSE TYPES	GROUPS			
	I	II	III	IV
support for government policy pertaining to NPP usage				
support for government policy pertaining to NPP usage with messages				
support for NPP usage if everything related to NPP is the same with an explained NPP technology				
lack of confidence in national competence to operate NPPs and to safeguard nuclear waste				
lack of confidence that use of NPPs will lead to national prosperity				
opposition to NPP usage				

I villagers II students III private employees IV government employees

Figure 1 Correlation between participant response type and participant group

The darker the background the more concentrated the opinion. According to the above figure, most villagers tend to support government policy pertaining to NPP usage. Some of them understand there may be employment opportunities when the project is complete. Most students tended to appreciate the nuclear technology achievement rather than discussing the consequences. Private employees concentrated their attention on the weaknesses of NPP usage. They tended to oppose NPP usage. Their lack of confidence in national competence to operate NPPs and to safeguard nuclear waste, and that use of NPPs would lead to national prosperity is very high. Government employees are less critical than private employees. They have to trust the government.

In addition to the above summary, there are some important things noted from the promotion activities conducted:

- The participants were always confused by the contradiction between promotional information and most information published in the mass media. This is due to the fact that information published in the Indonesian mass media is mostly about nuclear accidents and their commemoration (Chernobyl and Three Mile Island accidents) and NPP hazards. Little news is provided about NPP benefits.
- The participants questioned opposition to NPPs in some foreign countries.
- The participants said that getting NPP information was not easy. In other words, information was only provided when there were campaigns by either BATAN or the Nuclear Engineering Department.
- The means used to provide information were not easily understood due to the terminology and language used.

The conclusion from the above explanation is that promotion of Indonesian NPPs faced the following problems:

- content of materials is compatible with the public's needs and level of comprehension
- the means of transferring information, and
- the dissemination of information.

PROPOSED APPROACH AND ITS IMPLEMENTATION

In proposing a public acceptance approach to the Indonesian public, I make the assumption that public opinion can be changed by supplying appropriate information. This assumption is based on the results of promotion experience indicating that a total opposition to NPPs was seen only in a few participants. In addition, participants tended to allow discussion, not be totally opposed.

According to promotion experience the two aspects of lack of confidence are critical problems. To solve this problem "a proof approach" can be used. With this approach proofs first have to be provided and then the public informed. A real proof that describes the national competence to operate NPPs and to safeguard its wastes should be provided. Secondly the proper calculation that describes the national benefits of NPP usage has to be conducted. These proofs have to be provided to the public clearly and allow for discussion. An example of approaches to provide proof of the national technical competence and solving the national independence problem, is proof of a supply and operate approach. This approach consists of two activities. Firstly the national technical capability of

producing nuclear fuel and reactor components is developed. The products are then exported to the vendor country. Secondly, some people are sent to work in all divisions of an NPP in the vendor country. This approach enables Indonesia to accelerate its national technical competence and gives proof to the public of the required technical capabilities and achieved national independence. Consequently implementation of a supply and operate approach requires close and long-term cooperation between the national authority and the vendor. Bilateral agreements between Indonesia and the vendor's country seem to be important factors in implementing this approach.

The information about the opposition by the public to NPPs in many countries should be conveyed clearly to the public.

In providing information, a public needs approach can be developed. This approach is intended to provide effective ways of informing the public. With this approach information is compiled based on public needs not on what is in the promoter's mind. Consequently public information has to be provided in different packages compatible with the target audience. The information is able to be changed in accordance with public needs and conditions. The public needs approach requires an integrated understanding of social institutions, interaction behaviour and the culture. Multi-disciplinary activities in compiling information cannot be avoided to get successful implementation with the public needs approach. The promoter's role as first information provider, also provides a means of communication to get responses from the public. The response information is used to prepare the next information. The information flow that uses feedback mechanisms should be ongoing and follow public needs.

Disseminating information should involve consideration of traditional social institutions, including its interaction, besides modern dissemination means, and also its behavior. The paternalistic behavior of social interaction can be and should be used in disseminating information. In past campaigns, information was disseminated only in very limited ways. Not all connections that were able to be used as dissemination means were used optimally. Even some dissemination means that are able to reach the roots of the public, e.g., the office of social department, had not been used. To improve the information dissemination some of the work indicated below should be done. These are:

- coordination of all means of dissemination
- improvement of the understanding of means of dissemination in promotional materials, and
- providing coordination among all parties involved in information dissemination.

REFERENCES

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