

**THE EXPERIENCES AND KNOW-HOW OF INDONESIA
IN PLANNING TO INTRODUCE NUCLEAR POWER
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I. Introduction

In the 1970s, many countries of the world had come to the understanding that nuclear power was a concentrated type of power that could be harnessed and put to use for the interests of mankind. People in our agency at that time had that opinion, and initial efforts to introduce nuclear power were conducted. The Government during the 1970s was starting to consider the introduction of nuclear power plants in Indonesia. Meanwhile the State Electricity Company kept on with their program to build diesel and coal fire plants to fulfill the need of electricity.

In the late 1970s the Government agreed for our agency to build a nuclear technology base in order to be really ready when the decision to build a nuclear power plant should come. Therefore in the early 1980s we started building our 30 MW "Multipurpose" Research Reactor and its various supporting facilities in the area called Serpong, a place not very far from Jakarta. Actually we had already two other research reactors, but smaller ones, a 250 KW research reactor in the city of Jogjakarta, Central Java, and a 1 MW Triga research reactor in Bandung, West Java. The various facilities in Serpong were inaugurated beginning 1987 and immediately begun its operation.

Our agency had not forgotten the purpose of building this nuclear technology base, and proposed again to the government that we should embark to nuclear power as soon as possible. We had conducted feasibility studies for this purpose, however, again we were requested to conduct still a more in-depth and comprehensive feasibility studies before such decision can be made.

Therefore in the early 1990s, a four and a half year feasibility study including energy-economic studies, various types of NPP selection, environmental, culture, national participation, as well as site feasibility studies were conducted, and a Japanese firm for this endeavour was involved.

After the feasibility studies were completed, immediately came the economic crisis. During this time we had to keep a low profile regarding nuclear energy, but we still kept at our best in disseminating information on nuclear, but more focussed on the immediate needs of the people, with more concentration to the fields of agriculture, animal husbandry, health and medicine, etc.

However, in 2002 the situation showed slight changes of economic recovery which became more evident in 2003. We no longer had to keep a very low profile in the year 2003, and we realized that better strategies and new dissemination materials had to be produced in the direction of nuclear power.

II. Our Preparedness for Nuclear Power

Since the early 1980s, our agency has been recruiting new graduates in various disciplines, and also sending personnel abroad to other countries for studies and training.

One of the most progressive programs is the Design Participation Programs held in the late 1980s, where many of our personnel have been sent to vendor companies like General Electric and Westinghouse, involving in the work and engineering in the latest designs available. This has given us more confidence in embarking to nuclear power.

As our country had been planning for nuclear power, efforts have been given to generate technical requirements which could be used in order to obtain the best known implementation of nuclear power. The International Atomic Energy Agency had taken considerations for this concern, and finally the IAEA-TECDOC-1167 with the Title "Guidance for Preparing User Requirements Documents for small and medium reactors and their application" had been compiled and issued in the year 2000.

In line with these activities, a nuclear supervisory agency had been formed during the late 1990s, which is now a separate body from our agency. An independent agency responsible for the supervision of our agency as well as other companies involved in nuclear. This paved the way to be more reliable in the eyes of the society.

This year in 2003, our agency has formed a special team consisting of all the senior and qualified experts within our agency to come up with a special report summarizing the urgent need of nuclear power having the title "Nuclear Energy as a Part of the Long Term National Energy System". This report shall be the basis of dissemination of information to the top level of the government as well as to the society, where one united voice is coming from our agency.

At the same also in the year 2003, in collaboration with two universities, studies have been conducted, with the title "A Social, Political and Cultural Study Regarding the Resistance of People towards the Development Planning of Nuclear Power Electricity Generation in Central Java" by the University of Diponegoro, and the title "Acceptance by the People towards the Economic Evaluation of Electricity Generation and Desalination of Seawater for Fresh Water" in the Island of Madura by the University of Brawijaya. In this collaboration with these local universities, socialization and dissemination of the results of the studies to the regional government, prominent people of the society and NGOs are included.

Another endeavour, thanks to the Government of Japan through the Ministry of Education, Culture, Sports, Science and Technology (MEXT) in another project, a highschool teacher accompanied by a staff from our institution will be sent to Japan to visit nuclear facilities for orientation and knowledge. This teacher coming from the area where we plan to build NPPs, will be expected to eventually train others in dissemination of information to the public in the area. This visit is planned for February 2004.

Our involvement with FNCA, is one of the efforts also to be ready when the time comes, because in this era, nuclear for peaceful purposes is not something that should be done alone. Not one country can find and discover everything by themselves. Sincere cooperation among countries, especially in this region is very important, if we want to make immediate progress in all facets of life. Exchanges of experience may prevent a person or country from doing any failure, and Indonesia as well as other countries in this region cannot afford to let that happen. It could be costly, and as you all know, the economies of our developing countries still needs much support. Therefore, these are some of the reasons why we strongly support activities like the Asia Nuclear Cooperation Network (AsiaNNet), the Regional

Speakers Bureau (RSB) and activities such as the Cross National Joint Survey of Highschool Students.

III. When are we planning to realize Nuclear Power ?

Based on the results of a Comprehensive Assessment of Different Energy Sources for Electricity Generation in Indonesia, nuclear power will be possible to be on line around the year 2016 in the Java-Bali Grid. Given the time for construction, construction could begin probably around the year 2010.

Beginning this year of 2003, we have been giving efforts to reinstate the National Energy Policy by including nuclear energy as one of the options. This is our target for the year 2004. This is considered very important, because it opens the doors to many possibilities, not only to nuclear power plants but also other kinds of equipment that can use nuclear, like maybe the desalination of sea water into fresh drinking water, and for use in dry areas.

IV. What shall we do for Public Information ?

Public Information activities as you all know is a never ending program, and it will always be adapted to the changing policies of every country. In our gradual shifting policy to nuclear power, exhibition materials, like leaflets, brochures, films, etc. are also being changed and being adapted. For example, a number of exhibition materials have been renewed and adapted to reflect to the special report mentioned above.

From experiences, we have noted that many people watch the television and listen to the radios, and responses have been noted coming from various places of Indonesia during Interactive-live Television or radio programs. We have to select which television and radio stations are the most popular, the regular time and number as well as the program topics to be transmitted. This has proven to be a very effective way for dissemination of information.

Other activities like exhibition and seminars are also being evaluated for their effectiveness. For example, the most effective in Indonesia for conducting seminars and exhibitions is when we invite the local government, the local universities and their students, and conduct a signing ceremony (at least MOU) at the same time for further and future cooperation.

Our methods of dissemination of public information have not changed very much, the same as we have reported in the previous country reports, but continuous evaluation for enhancing effectiveness have been done.

IV. Closing

In our endeavour to introduce nuclear power, we have had much opposition and unfavourable situations which have prevented us from going ahead in nuclear power until now. However the situation since the year 2002 has been gradually supportive and during the events that have happened in that year and 2003, we have become optimistic that the momentum for renewing efforts for promoting nuclear has come, or will never come at all in the future. We believe that within 6 or 7 years from now, we will start to construct nuclear power plants.