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ENERGY & POWER

Future of Nuclear Power:

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Dilemma Over Nuclear Power Plant

Nahid Anjum Siddiqui

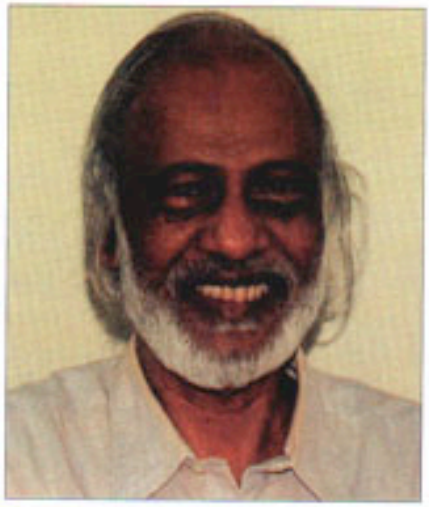
The country's energy sector experts are split in their opinion whether Bangladesh should go for nuclear power plant as the government has already undertaken a plan for a 1000MW power plant. The issues raised eyebrows of the citizens particularly after the recent nuclear accident in Japan. EP has interviewed few experts in the sector to mobilize their views and share them with EP readers. Few of them favored the move, but ensuring high cautionary measures. Few, however, were against the plan as the country cannot afford to tackle any incident like in Japan. Following are the excerpts from the interviews:

Dr. Abdul Moyeen Khan

Member, National Standing Committee, BNP and Former Minister for Planning, Information, Science and ICT

The real question is not whether Bangladesh should go for a nuclear power plant, rather whether Bangladesh can afford to go for it; firstly, from the viewpoint of its ability to make the huge initial financial investment as well as from the concern for security management of a nuclear power plant.

In most developed countries of the world, nuclear power is being widely used for generating electricity, the starkest examples being Germany and France. While nuclear power plants have their plus and minus points, now-a-days, security considerations have turned out to be the main concern which we are trying to address today around the world, the reason being radioactive materials are the fuel for nuclear power plants. This radioactive material, God forbid, can fatally affect the people killing thousands and disabling tens of thousands in a densely populated country like Bangladesh in case of any accident, whether natural or man-made. And consequences from such a tragedy from a nuclear accident would be beyond repair as we have extremely scarce resources to face a situation involving a nuclear contamination as well the extent of possible very large number of victims. We have very recently witnessed how the people in Japan have been affected drastically from the total meltdown of a nuclear power plant, and the destruction of its fuel chamber in the other plant as a consequence of the recent tsunami there. In the past, we also observed the Chernobyl disaster which was man-made in the sense that Soviet Russia's poor maintenance system and a possible low level technology, which in all likelihood caused the accident and mostly affected the poor countries of the world through the unscrupulous export of radioactivity contaminated powder milk. Besides, disposal of used nuclear power plant fuel rods is certainly another serious concern for all because of the long half life of the used enriched Uranium and the like. Radiation from used fuel rods remain active for long years after they are



Dr. Abdul Moyeen Khan

discarded, which remain as a potential danger to people in case of any sabotage or security lapses. Moreover, the environmental threat to "mother nature" is the other serious concern that has drawn adverse public attention as well as severe criticism against such plants around the countries where new and future nuclear power plants have mostly been put on hold. To give an example, people in Sweden have now become the strongest opponent of this technology while they were the pioneers in promoting nuclear power starting from as early as the beginning of the nineteen seventies. That is why the countries which had taken up plans to have more nuclear power plants in the near past are now giving a second thought before going onto further escalation of such technology.

The other very important consideration for a resource starved country like Bangladesh is the issue of huge initial financial investment in a project like this, so to say, whether such an investment would at all be financially viable at the present state of our economy as well as global economy. If this huge amount of the order of a few Billions of US$ is to be borrowed at a high interest rate, this will remain as a perpetual liability for our future generation to bear which would be an additional liability quite apart from the security concerns.

Dr. Ijaz Hossain

Professor Department of Chemical Engineering, BUET

A nuclear power plant, which is extremely difficult to operate, requires very high initial investment. The most important thing is that it is highly dangerous for Bangladesh.

Other than Pakistan and Iran, no developing country has nuclear power plants, and everyone knows the real intention of the two countries. I do not consider China and India as developing counties because they are now mini-superpowers. Nuclear power plants therefore still remain a developed country option for electricity.

In the event of an accident, Bangladesh will simply not be able to manage the

Dr. Ijaz Hossain

disastrous event, which will and along with lots of lives being lost, vast tracts of land will become unusable for a long time. In my opinion, the environmental dangers are a magnitude greater than open-pit coal mining, and as yet, we have not been able to take a decision on that.

If we assume that our demand will be around 20,000 MW in 2020, a 1000 MW nuclear plant will merely supply 5% of that. Why then are we taking such a great risk and spending so much of our own money critically needed in other development sectors. We do not have the money, the technology, the expertise for operation and the resources to manage an accident – this is a perfect example of misplaced priority.

Dr A F M Yusuf Haider

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Chairman, Department of Physic, Dhaka University

Power in our country is mostly generated by burning fossil fuel i.e. gas and coal except the Kaptai hydroelectric plant. Burning of fossil fuel generates a large amount of green house gas which pollutes the atmosphere with harmful effect on both human and nature. Moreover, this fossil fuel will be exhausted in near future.

We have to look for alternative source of energy like renewable energy and nuclear energy. Though renewable energy can supplement other form of energy to meet our energy requirement, they are the most diffused form of energy such as solar energy and their production cost of power is by for the largest. On the other hand nuclear energy is the densest form of energy and production cost of power is one of the lowest. The nuclear power has no CO_2 emission problem but has the most serious problem of nuclear waste popularly known as nuclear ash disposal and its maintenance is highly technical with potential threat of serious accident due to malfunction or misuses.

Bangladesh has not yet developed the technical expertise to run and maintain a nuclear power plant. However, nuclear power plant can be established in Bangladesh considering the serious energy crisis prevailing in our country. In that event, the nuclear power plant will have to be operated by foreign experts.

Moreover, if a big power plant of around 1000MW is established, Bangladesh grid will not be capable of handling that. In addition when the 1000 MW nuclear power plant will be shut down for maintenance or refueling, there will be a serious power crisis for the certain period of power plant shut down which may be four to six months. Finally, Bangladesh should go for a small nuclear power plant around 300MW to start with to gain experience. In my opinion, Bangladesh should start with a small scale nuclear power plant and should develop its technical manpower giving top most priority.

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