

Enhancing nuclear safety verification ability for personnel of regulatory body in Vietnam

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1. Introduction

A major issue dominating the nuclear energy development program is the availability of sufficient human resources. Vietnam needs to have significant numbers of engineers, technicians, and scientists in order to support and ensure the safety of nuclear power plant which will be paramount as the government's goal. In particular, to ensure safety in utilization of nuclear energy, a country embarking on a nuclear power program should consider the early establishment of a regulatory body which regulates nuclear power plants at all stages to protect public from radiation hazards and to preserve the environment.

In this paper, some lessons learned and the status of human resource development for nuclear safety in Vietnam is presented. Some recommendations, proposed ideas are given on strategy development of human resource.

2. Regulatory strategy to enhance human resources

2.1. Evaluation of current strength of human resources

VARANSAC (Vietnam Agency for Radiation And Nuclear Safety) is organized and operated according to the leader mechanism in combination with collective discussion.

Agency's Director General is responsible to the Minister for the whole operation of the Agency.

Not like another country, the regulatory body in Vietnam is under MOST (Ministry of Science and Technology). So we will be affect form the relationship between other organizations in MOST.

Total staffs of VARANS now are 83 people, including 10 doctors, 16 masters, and the remains are bachelors and engineers.

2.2 Realization of importance of human resources

As a newcomer cannot expect to build all the necessary competences for safety regulation at the beginning, it should attach the utmost importance to acquiring the technical competences needed to license a nuclear power plant. Several examples show the importance of acquiring technical and regulatory competences. The International Nuclear Safety Group of the IAEA noted the importance of a vendor country's assistance in establishing a new entrant's safety infrastructure. In a letter sent to the director general of

the IAEA and circulated to the member states, it said, "The fulfillment of the safety obligations will be very challenging for many of the new entrants. This imposes special obligations on the vendor and regulators with experience with the vendor's design to assist a new entrant in understanding and fulfilling its safety obligations. It is in the interest of all countries to assist the new entrants in this effort. Additional resources are required and should be a high priority. Support for the enhancement of regulatory capacity will be particularly important in this connection, as operators generally receive significant assistance from vendors, while the regulators do not.

Following examples highlight the importance of early development of a regulatory system and securing competences. At the same time, they raise the question of what competences a regulatory body should have and what parts can be outsourced to external organizations. As the IAEA safety standards state, a regulatory body shall discharge several essential roles and responsibilities. Thus, any country planning to have a nuclear power plant should establish appropriate capacity building policy to cover the requirements.

2.3 Requirement for better trained personnel

Looking to the future introduction of nuclear power, because, the principled provisions has not been clarified and the inconsistencies in the specific terms, this lead to problem in one of the important processes of state management is evaluation - licensing in different stages of nuclear power plants:

- Approving the site: Ministry of Natural Resources and Environment assesses report on environmental impact assessment, the radiation safety and nuclear safety agency assesses safety, The Council of the State performs overall evaluation, the Prime Minister Government approved location.

- Construction License: the body of radiation safety and nuclear safety assesses safety, the Ministry of Science and Technology permits license of building.

- Licensing commissioning: the body of radiation safety and nuclear safety, the Council of the State evaluate safety, the Ministry of Industry and Commerce permit license of commissioning.

There is possible conflict of interest may occur if MOIT issue licensees for reactors to EVN which is within the same ministry. This is further complicated by the fact that VAEI (which is in MOST) will likely provide

technical services to EVN, but at the same time regulatory functions (including when the license should be issued, inspection and enforcement during both construction and operation of the facility) will be carried out by VARANS who are also in MOST.

2.4 The Practices to enhance verification ability for personnel

a. Current practices

➤ Rostechnadzor (Russia's regulatory body)

- Rostechnadzor helps VARANS to training staff and make many workshops in Vietnam in 2011.

They promised that they will pay a little of money for us to training in Russia. But it is not enough for everyone to be interesting to go there.

➤ IAEA sent experts

IAEA help VARANS to continuously carry out training
For Example: (nearest cooperation)

- From 12 to 16 December 2011, the Vietnam Agency for Radiation and Nuclear Safety (VARANS) in collaboration with the International Atomic Energy Agency (IAEA) organized the Training course on the use of deterministic safety analyses (DSA)

➤ Jnes (Japan's regulatory body)

For Example: (nearest cooperation)

- From 3 October 2011 to 4 December 2011, JNES make a training course for staffs of VARANS at Japan.

➤ Germany

- On 4 November 2011, at the Headquarters of the Vietnam Agency for Radiation and Nuclear Safety (VARANS), Dr Le Dinh Tien - Vice Minister of Science and Technology, Director General of VARANS received Gesellschaft für Reaktor – und Anlagensicherheit mbH (GRS) delegation from Germany.

b. Recommendations for improvement

➤ Find high qualification form advanced country

- There are many Vietnamese people who have enough experience and qualifications are studying and working in developing countries. For enhance verification ability for personnel, looking for them is a not bad choice.

➤ Ask bidding company to pay for training

- There are many companies which are bidding to build nuclear power plants at this time. So the regulatory body can ask them to provide some amount of money for training.

3. Conclusions

In order to strengthen verification ability for personnel for introduction of nuclear power in Vietnam, the formulation and implementation of National Nuclear verification ability for personnel Program is an urgent issue. Regional and International Cooperation play a very important role for the implementation of National Nuclear HRD Program and infrastructure development in Vietnam.

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