

## **The Utilization of Nuclear Energy in Thailand**

**(Vidhaya Rajatatibodee, Thailand)**

### **The most importance issue related to the peaceful use of nuclear energy in Thailand**

OAP has been taken the major role as the main atomic information center in nuclear field through various mass medias in order to enhance public knowledge and understanding on nuclear energy for 43 years. Moreover, OAP has been undertaken studies, research, development and promotion for expanding the application of nuclear energy in various fields, as well as to operate and maintain the nuclear reactor for national research and development.

Throughout our history, there are three most importance issue, **medical application, agricultural application, and industrial application**, which related to the peaceful use of nuclear energy in Thailand as follows.

#### **(1) Medical application**

Since nuclear medicine first attracted medical attention in Thailand, OAP has provided services for various hospitals throughout the country to meet the growing demand. The major responsibilities are regular production and quality control of radioisotopes, radiopharmaceuticals and radioimmunoassay (RIA) reagents as well as the promotion of newly developed radioactive compounds.

In addition, OAP has undertaken R&D on the preparation of clinical compounds to be used nuclear medicine for both diagnosis and treatment at a lower cost, in order to allow wider uses, particularly for low income people throughout the country.

Beside of the nuclear medicine, the nuclear energy ,which in the form of gamma radiation from cobalt-60 source, also used for the sterilization in the packaging process. It is safe for the operators and does not release any pollution.

(2) **Agricultural application**

OAP has undertaken R&D on the use of nuclear energy for the promotion of the agricultural production and export.

Radioactivity is used for mutation induction, improving resistance to diseases and increasing yield. The gamma ray are used to get rid of pests and microorganism in food products, for example, “Naem” (fermented pork sausage) and sweet tamarinds, to prevent growth and prolong the shelf life of onions and potatoes, to reduce microorganisms in spices, to get rid of insects in plants seeds and to sterilize such insects as the Diamondback Moth.

(3) **Industrial Application**

OAP has developed and applied nuclear technology in various fields of industry, as follows.

- Thailand Non-Destructive Testing (NDT) in Industrial.
- Magnetic Particle Testing (MT)
- Radiographic Testing (RT)
- Ultrasonic Testing (UT)
- Gemstone Color Enhancement
- Mineral Analysis
- Radioactivity Measurement of Export Products

The main objectives of the tests to improve and control the quality of production as well as to keep the occurrence of irregularities and defects to a minimum.

Moreover, OAP also concern about the public safety and the environment, we works toward the safety of the users, operators, workers and the general public. In the complying with the standard practices and guidance of the International Atomic Energy Agency (IAEA), OAP is to determine various standard procedures applicable in particular in nuclear safety, to set up radiation protection practices, and to provide a licensing for the import and possession of nuclear materials and to carry out the measurement and disposal of radioactive waste as well.

## **The past achievement of FNCA Public Information Project in Thailand**

For many years of PI activities that Public Relations concerning the benefit of nuclear energy is the crucial task of OAP to provide Thai people with knowledge on nuclear energy and nuclear technology. We aim to achieve accurate public understanding, public acceptance and confidence in nuclear safety for peaceful utilization of nuclear energy.

At present, it seems that the achievement of public acceptance is satisfactory in a certain level for some target groups of higher education. Nevertheless, according to the report of OAP's PR consulting company, the majority of residents in Nakhon Nayok Province especially in Ongkharak area understand more about nuclear energy and its benefits as well as impacts that it might cause and have quite good opinion about it.

However, there are many people who still not understand and not confidence in nuclear energy and nuclear technology. Then we will keep trying our best to promote nuclear applications in Thailand by continuously proceeding through the mass media and will be used the others strategy to convince the acceptance in nuclear application as well.