



KEMENTERIAN TENAGA, SAINS, TEKNOLOGI,
ALAM SEKITAR & PERUBAHAN IKLIM
MINISTRY OF ENERGY, SCIENCE, TECHNOLOGY,
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TARIKH	RABU, 27 NOVEMBER 2019
AKHBAR	NEW SARAWAK TRIBUNE
TAJUK ARTIKEL	CONTROLLED USE OF NUCLEAR TECHNOLOGY
M/S	7
BIDANG	NUCLEAR
KATA KUNCI	AELB, NUCLEAR TECHNOLOGY

Controlled use of nuclear technology

BY TANIA LAM

KUCHING: The use of nuclear technology in industries is well controlled in Malaysia, said Atomic Energy Licensing Board (AELB) director-general Datuk Hamrah Mohd Ali (*pic*).

He added that AELB enforced the Atomic Energy Licensing Act 1984 (Act 304).

"We are always monitoring via the processing of licences and also inspections," he told a press conference following the official opening of the Radiation Protection Conference and Workshop 2019 at Pullman Hotel here yesterday.

He said that at the moment,

there were approximately 300 such licensed companies nationwide and AELB also has branch offices.

"In Sarawak, the office is located in Bintulu whereby there are many industrial areas which use nuclear technology, especially in the oil and gas industry," explained Hamrah.

He said that the number of licences issued under AELB to Sarawak companies was less than 100 while the number was higher in Malaya.

"So far, there have been no cases of misuse," he added.

Hamrah said that AELB would inspect companies at least once a year, with newer applicants being checked for compliance

within a period of six months. "When licences are being renewed, we will also inspect," he said.

Besides these routine inspections, Hamrah added that spot checks were also carried out, especially often during high-risk activities.

He stated that AELB also worked closely with relevant agencies such as the police.

Meanwhile, Malaysian Nuclear Agency director-general Dr Mohd Abd Wahab Yusof said that the government's policy was very clear that nuclear technology would not be used for generating energy but its use in sectors such as industry, medicine and agriculture would continue.



"Nuclear technology is still expanding. Almost all industries use it," he said.

He said that the four-day 22nd conference and workshop themed 'Safety, Security and Safeguard' was being held in Sarawak for the third time and that it was attended by almost 200 participants from all over Malaysia.

He emphasised the importance of understanding and applying a safety culture at work in order to protect oneself, others, as well as the environment.

"We also invite the public to attend and learn more about these matters such as what radiation is and how to protect against radiation," Mohd Abd Wahab said.

Also present at the press conference was Malaysian Radiation Protection Association (Marpa) president Datuk Dr Zulkifli Mohamed Hashim.

NUCLEAR TECHNOLOGY

- Technology that involves the nuclear reactions of atomic nuclei.
- Among notable nuclear technologies are nuclear reactors, nuclear medicine and nuclear weapons.
- Radioisotopes, nuclear power process heat and non-stationary power reactors have essential uses across multiple sectors, including consumer products, food and agriculture, industry, medicine and scientific research, transport, and water resources and the environment.

History & Scientific Background

Nuclear fission

- The process of splitting a nucleus into roughly equal parts, and releasing energy and neutrons in the process. If these neutrons are captured by another unstable nucleus, they can fission as well, leading to a chain reaction.
- In 1951, the first nuclear fission power plant was the first to produce electricity at the Experimental Breeder Reactor No. 1 (EBR-1) in Arco, Idaho, ushering in the 'Atomic Age' of more intensive human energy use.

Nuclear fusion

- A reaction in which two or more atomic nuclei are combined to form one or more different atomic nuclei and subatomic particles (neutrons or protons). The difference in mass between the reactants and products is manifested as either the release or absorption of energy.

Civilian uses

- Nuclear power is a type of nuclear technology involving the controlled use of nuclear fission to release energy for work, including propulsion, heat, and the generation of electricity.
- Medical applications of nuclear technology are divided into diagnostics and radiation treatment.
- X-rays and gamma rays are used in industrial radiography to make images of the inside of solid products, as a means of non-destructive testing and inspection.
- Commercial applications of nuclear technology are present in smoke detectors, titanium illumination, and radioluminescence.
- Radiation is used in biology and agriculture to induce mutations to produce new or improved species.
- In industrial and food applications, radiation is used for sterilisation of tools and equipment.

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