



MOSTI

Ministry of
Science, Technology
and Innovation
Malaysia

NUCLEAR REGULATORY



Newsletter

Message from the Minister of Science, Technology and Innovation

Further Ensuring Nuclear Safety, Security and Safeguards



Although at this point in time Malaysia views nuclear energy as the last option for energy generation, in many countries today nuclear energy has become imperative due to escalating fuel cost. Nuclear power plants (NPPs) are more efficient in generating electricity than oil, natural gas or hydropower and can bring substantial economic benefits. Nuclear energy also has other uses, such as in the production of radioisotopes for use in many aspects of modern lives that include health services, industry and even domestic safety. For example, smoke detectors installed in offices or homes have small amount of americium derived from plutonium made in a nuclear reactor. In developed countries, nuclear medicine, which involves the use of radiation and radioisotopes has become part of important diagnostic and therapeutic tools in the health services.

Despite its many advantages, many people often associate nuclear energy with nuclear weapons and are unconvinced in the aspects of safety and security, including the risks posed by nuclear waste and its impact on the environment. The concerns are also similarly shared in Malaysia and the Government has taken actions consistent with the global progress on the development of safer NPPs. Malaysia, through the Atomic Energy Licensing Board (AELB) has adopted nearly 50 documents that provide guidelines, codes and standards concerning peaceful and safe nuclear activities. Issued by the International Atomic Energy Agency (IAEA), these safety related documents include the IAEA Code of Conduct on the Safety and Security of Radioactive Sources and the Code of Conduct on the Safety of Research Reactors. These documents will be used by AELB in the implementation of national nuclear regulations and licensing requirements. In doing so, Malaysia has the moral advantage and sets the benchmark for the neighbouring countries to follow.

In addition, Malaysia has also taken the initiatives to further improve the national infrastructure for monitoring aspects of safety, security and safeguarding the peaceful use of nuclear energy in the country. A National Radiological Emergency Centre for radiological emergency preparedness and response as well as a National Detection System will also be set up in the country. The system monitors natural and released radioactivity and ensures the safety level in the environment. In addition, it also tracks any illicit trafficking activities of radioactive and nuclear sources to combat inappropriate use of nuclear energy that threatens national and global security.

Malaysia supports the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) and the related IAEA safeguards agreement, including export control of nuclear materials and technology. Malaysia is a signatory to the comprehensive safeguards agreement since 1969 and to the Additional Protocol signed in 2005.

My Ministry through AELB will also oversee the setting up of Malaysia's National Nuclear Monitoring Laboratory (NNML) in Rompin, Pahang, which is the first to be built in Southeast Asia and the 16th of such facility in the world. AELB will manage the laboratory and its main function is to ensure that nuclear energy will be used for peaceful purposes only. This augurs well with the country's stand of upholding peace and the use of nuclear energy for the benefit of mankind. It will also include a national nuclear security support centre.

Turning to current UN climate change discussions, many view nuclear power as having a strong potential for reducing future carbon emissions and presents a relatively carbon-free energy option. As the demand for clean energy is expanding, nuclear power technology presents an option that is readily acquired for rapid commercialisation. Nevertheless, it has high capital cost and needs to address concerns regarding waste disposal and finally, political acceptance.

I would like to congratulate AELB for publishing the Nuclear Regulatory Newsletter, which serves as one of the official channels to disseminate information on the activities, policies and other matters relevant to atomic energy in the country. The publication of this newsletter is just one of the first steps taken by AELB to reach out to those who wish to get regular accurate updates on the atomic energy industry. Hopefully these efforts will allay the fears regarding safety, security and safeguards of all nuclear related activities in this country so that the benefits of the technology can be realised.

YB Dato' Sri Dr. Jamaludin Mohd Jarjis



An artist's impression of Malaysia's National Nuclear Monitoring Laboratory, to be built at Bukit Ibam, Rompin, Pahang.

1st Regulators Trained As Reactor Operator

June 10, 2007 – August 30, 2007

For the first time, two home grown AELB officers have successfully completed the Reactor Operator Training and examination programme conducted by Nuclear Engineering Teaching Laboratory (NETL) at the University of Texas, Austin, United States. The programme follows the guidance of the United States Nuclear Regulatory Control (USNRC) that included among others reactor operation, safety inspection based on technical documentation, radiological control, auditing and maintenance programme.

This programme is in line with AELB's effort in developing the certification of reactor operator programme based on AELB's document entitled "Standard for certification and recertification of research reactor operator" implemented from September 1, 2007. According to this standard, the certification of reactor operator will be given after the future operators achieve good results in their written and oral examination and facility walk through conducted by AELB.



AELB officers Lydia Ilaiza Binti Saleh and Fedrick Charlie Anak Matthew Brayon with Mr. Sean O'Kelly, Associate Director, Nuclear Engineering Teaching Laboratory, University of Texas.

AELB to Establish a National Nuclear Monitoring Laboratory by 2011

On June 27, 2007, the Government of Malaysia agreed to establish a national nuclear monitoring laboratory, the first of its kind in ASEAN and subsequently approved an allocation of some RM100 million (approximately USD\$26 million) for the project. The task of setting up the facility has been assigned to the Ministry of Science, Technology and Innovation through the Atomic Energy Licensing Board (AELB). At present, AELB, with the assistance of the relevant Malaysian Government Agencies, is evaluating a 200-hectare site in Bukit Ibam, Rompin in the State of Pahang, West Malaysia, to determine its suitability as a possible location for the laboratory. The announcement of the setting up of the laboratory was made by Deputy Prime Minister, YB Dato' Sri Najib Tun Razak on July 14, 2007.

The laboratory is expected to be fully operational within three years, i.e. by 2010. It also houses training facilities including that

for National Nuclear Security Support Centre. In this connection, the Government of Malaysia will seek the co-operation of and advice from the IAEA on the design and planning aspects of the laboratory, the training of manpower and ultimately, in obtaining IAEA accreditation. The facility, which has been proposed to be designated as the "Malaysian Nuclear Monitoring Laboratory", will carry out environmental sample analyses, in particular those samples falling under safeguards obligations. Samples to be analysed by the laboratory could include those from national regulatory inspections, as well as those from other countries as may be requested by the respective national authorities or other relevant entities of those countries or the relevant international organisations.

With the anticipated increase in demand for the analysis of environmental samples arising from nuclear safeguards activities in the region, Malaysia hopes that the laboratory could eventually be, inter alia, recognised as one of the analytical laboratories in the IAEA's International Network of Analytical Laboratory (NWAL) as well as the first of its kind to be established in a developing country.

The decision to establish the proposed Malaysian Nuclear Monitoring Laboratory was conveyed to H.E. Dr. Mohamed ElBaradei, the Director General of the IAEA, during the course of the latter's visit to Malaysia from July 17-18, 2007.

Proposed location for National Nuclear Monitoring Laboratory.





Periodical Inspection of Research Reactor Facility TRIGA MARK II

July 2 – 4, 2007

Held from July 2-4, 2007, the periodical inspection of research reactor Triga Mark II sited at Malaysian Nuclear Agency was successfully conducted by AELB. The annual inspection was carried out to continuously ensure that the facility meets national and international requirements of operational and limit condition (OLC) as well as licence conditions.

The inspection results were conveyed and discussed with the operating agency with the aim of achieving greater improvement to ensure the safety, security and safeguards of the facility and its activities. This inspection also successfully enhanced continuous co-operation between both regulatory and operating agencies to ensure safety.

*PUSPATI TRIGA MARK II
Research Reactor.*

New Draft Regulation for Licensing Research Reactor Successfully Reviewed

August 20 – 24, 2007

New draft regulation on research reactor licensing called Atomic Energy (Research Reactor Licensing) Regulations was successfully reviewed by IAEA experts, Mr Stephane Calpena from IAEA and Mr Reali Ludovic from The French Nuclear Authority from August 20-24, 2007.

Besides AELB, three other Government agencies were involved in this regulation review mission, namely the Royal Malaysian Police, Malaysia Nuclear Agency and Ministry of Science, Technology and Innovation (MOSTI). These three agencies are members of Reactor Research Licensing Committee at the AELB level.

The practices of other countries, such as France, Canada, USA and Finland were also taken into consideration in the preparation of this regulation initiated by AELB in February 2007.

The document serves as a new regulation issued under Atomic Energy Licensing Act, 1984 (Act 304), which covers the control on siting, design, construction, commissioning, operation and decommissioning of research reactors in Malaysia.



Participants with the experts from IAEA and the French Regulatory Authority in Putrajaya.



Participants from MOSTI, AELB, Malaysian Nuclear Agency and the Royal Malaysian Police.

AELB Participates in the 25th ASEAN Minister on Energy Meeting (AMEM) and Associated Meetings

August 20 – 23, 2007

AELB was invited for the first time to join Malaysia's delegation in the 25th ASEAN Minister on Energy Meeting (AMEM) and associated meetings held in Singapore from August 20-23, 2007. The meeting discussed in depth the proposed co-operation of ASEAN in the field of nuclear safety. Among specific issues discussed was the proposed establishment of ASEAN Nuclear Energy Sub-sector network under the framework of AMEM. As the national regulatory body for nuclear activities, AELB's involvement is important in ensuring the proposed network will take into consideration the existing regional and international instruments as well as national law and regulation in supporting the establishment of ASEAN Economic Community by 2015. AELB was represented by its Director General and the Director of Nuclear Installation and the meeting successfully achieved Malaysia's objectives.

AELB Participates in Nuclear Activities Exhibition in Conjunction with the 51st IAEA General Conference, Vienna, Austria

September 17-21, 2007

AELB and the Malaysian Nuclear Agency represented Malaysia at the International Nuclear Activities Exhibition held in conjunction with the 51st IAEA General Conference in Vienna, Austria from September 17-21, 2007. With the AELB's theme of "Ensuring nuclear safety, security and safeguards", the booth attracted more than 500 multinational visitors who were also participants of the General Conference. In line with the theme, AELB exhibited among others its new national system for detection illicit trafficking of radioactive and nuclear materials which cover the whole of Malaysia's borders. In association with this effort, Malaysia through AELB announced its readiness to co-operate with IAEA in contributing the National Nuclear Security Support Centre to the region.

Recent Events

December 3 – 5, 2007, Kuala Lumpur:
National Field Exercise on Emergency for Research Reactor.

December 3 – 6, 2007, Kuala Lumpur:
IAEA Regional Workshop on Integrated Management System.

December 3 – 7, 2007, Kuala Lumpur:
IAEA Regional Training Course on Pre-disposal of Radioactive Waste Management.

December 3 – 7, 2007, Kuala Lumpur:
IAEA Regional Training Course on the Foundations of Physical Protection.

December 10, 2007, Kuala Lumpur:
National Convention on Nuclear & Radioactive Material Safety, Security & Safeguards.



Malaysia's delegation at the 51st IAEA General Conference, Vienna, Austria.



Malaysia's exhibition booth at the 51st IAEA General Conference, Vienna, Austria.



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We'd really like to hear from you!

Tell us what you think of the newsletter. Is the information useful and how can we make it better for you?

Send your views to:

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