

Nuclear Regulatory Statement



Ensuring Safety,
Security &
Safeguarding
Peaceful Nuclear
Applications

PREFACE

Foremost on Malaysia's nuclear-related agenda is the protection of society in the aspects of health, safety and security as well as the environment. To this end, effective implementation of policies and guidelines as well as enforcement of atomic energy activities is absolutely essential. Atomic Energy Licensing Board (AELB) as the national regulator of the country's atomic energy activities including nuclear-related activity has played crucial roles to improve the national infrastructure for monitoring the aspects of safeguarding the use of nuclear energy and its safety and security. This statement was issued in accordance with the function of AELB in Section 8 (b) Atomic Energy Licensing Act, 1984 (Act 304) which is to exercise control and supervision over the production, application and use of atomic energy and matters incidental thereto.

Now AELB is taking steps to strengthen the nuclear regulatory infrastructure as part of the measures to prepare for the potential use of nuclear power as an alternative source of electricity generation in future. With this move comes the need to introduce an essential document titled Nuclear Regulatory Statement that clearly provides the assurance of nuclear safety, security and safeguards through nuclear regulatory principles and strategies. These will further ensure the safety, security and peaceful use of atomic energy and nuclear-related activities in Malaysia.

All such activities affect not only the Government and industry players but also the people. Every individual has the right to protection, hence the Nuclear Regulatory Statement includes key principles and strategies to effectively regulate and encourage high-level of safety, security and safeguards implementations. These principles and strategies are aimed at setting a high standard for operational transparency, safety and non-proliferation of nuclear energy as well as demonstrate Malaysia's peaceful intentions in exploring the application of nuclear power within the country. With nuclear regulatory measures in place, AELB pledges to further ensure that the acquisition of nuclear power by Malaysia is open and transparent to the national and international community and that the country's intention is clear – our nuclear power will only be used for peaceful purposes only.

INTRODUCTION

AELB has prepared this statement according to its function as stipulated under Section 8 (b), Act 304 which is to exercise control and supervision over the production, application and use of atomic energy and matters incidental thereto which include nuclear activity and other related activities. The Board, on November 23, 2010, approved the following national Nuclear Regulatory Statement for the assurance of nuclear safety, security and safeguards through nuclear regulatory principles and strategies to ensure the safety, security and peaceful use of atomic and nuclear energy and its related activities in Malaysia.

This statement describes the principles of the regulatory authority¹ that underline the approach in controlling and supervising atomic energy and nuclear and its related activities and the implementation of regulatory measures respecting national and international obligations on the peaceful use of nuclear applications.

In addition to underlining the regulatory roles and responsibilities, this statement shall also cover the management of spent fuel and radioactive waste. The spent-fuel and radioactive wastes shall be managed at their minimum, according to international practices, and where applicable shall not discount the re-processing, storing in on-site storage facility or in any interim storage facilities, or undertaking any other approaches that may be introduced and practised internationally in the future.

1.0 PRINCIPLES

All persons who deal with atomic energy including nuclear-related activities in Malaysia shall be subjected to nuclear legislation, and shall be directly responsible for the assurance of nuclear safety, security and safeguards, while managing regulated activities in a manner that protects public and workers health, property and the environment from radiological hazards. Malaysia through AELB and other appropriate regulatory authorities shall assure that these responsibilities are properly discharged in accordance with the Atomic Energy Licensing Act 304 and other relevant Acts, existing and in future.

AELB sets forth the following five principles to effectively regulate and encourage high-level of safety, security and safeguards implementations:

1.1 Effective Independence

1.1.1 Malaysia establishes the legal framework for the effective independent regulatory authority responsible for controlling and supervising atomic energy including nuclear-related activities. Regulatory Authority takes proper measures to ensure its independence, which is functionally separated by the other organizations and systems involved in the development and utilization of atomic energy including nuclear-related activities. The regulatory authority also acts on its own objectives, technical and professional judgment without any interference and influence from external sources.

¹Regulatory authority refers to AELB and may comprise of a multiple regulatory authorities which are relevant to the control and supervision of nuclear-related activity including Nuclear Power Programme in Malaysia

1.1.2 The regulatory authority shall maintain an extensive programme in order to maintain its relevancy with credibility so that it can independently verify the validity of the assertions of licensees, which are critical to regulatory decisions. The regulatory authority performs its responsibility with the highest standards of ethical performance, competency and professionalism. The regulatory authority's decisions and judgments shall be based on objective, unbiased assessments, considering possible conflicting interests of those involved, and every working procedure shall be documented. The regulatory authority shall also facilitate and guide licensees in solving problems, but only to the extent that the regulatory authority's independence and integrity are not impeded.

1.2 Openness

1.2.1 Regulatory authority maintains an open channel with the public for regulatory information so that the public is aware of, understand and rely on the regulatory process. Regulatory authority is also devoted to establish a firm social stand in the development and utilization of atomic energy and nuclear and its related activities by taking into account safety, security and safeguards aspects, which will be fulfilled by making an effort to inform the public appropriately and openly on the nuclear and its related activities.

1.2.2 Regulatory authority also develops the nuclear regulatory statement with strong consideration for public consensus, paying attention to the public's right to know of the regulatory process.

1.2.3 However, restricted information from the Government, industries or concerned individuals is protected and kept in confidence and treated according to the provisions concerned. Regulatory authority shall objectively inform the public of its activities so that it may collect public opinion more soundly and properly, and it strives to get public consensus through regular communication and interaction with the regulators, licensees and the public.

1.3 Transparency

1.3.1 Legislation related to atomic energy including nuclear-related activities shall be enforced through a clear regulatory statement. There should be a coherent relationship between the regulatory authority's goals and objectives and the legislation. The regulatory authority's position shall be documented to be readily understood and easily applied.

1.3.2 Regulatory authority endeavors to ensure that licensees are wholly informed about the regulator's statement so that the licensees can prepare their policies in advance in tandem with regulatory authority requirement pertaining to nuclear safety, security and safeguards upon implementation. In a case where a new or revised legislation is expected, the regulatory authority informs the licensees of the new or revised legislation and provides guidance in advance and establishes regulatory practices to minimize the licensees' trials and errors caused by the revision of regulatory requirements.

- 1.3.3 The licensees shall thoroughly observe the existing legislation related to the development and utilization of atomic and nuclear energy and its related activities. If they think that there is a need to revise them, the licensees shall communicate their view with the regulatory authority in order to initiate any revisions.

1.4 Efficiency

- 1.4.1 The regulatory authority has the responsibility to provide the licensees and the public with the best possible management and administration of regulatory activities and infrastructures.

In this regard, the regulatory authority shall also undertake the rationalization of licensing procedures for matters under the purview of Act 304, which may also involve other multiple, regulatory authorities under other legislations, to be turned into a single gate licensing process, while upholding the respective legal jurisdiction of those other regulatory authorities.

- 1.4.2 The regulatory authority shall constantly evaluate and upgrade its regulatory capabilities and possess sufficient and competent personnel in performing regulatory activities efficiently to minimize radiological risks.

- 1.4.3 Regulatory decisions must be made with the best use of all the resources invested in the regulatory process to minimize undue impediments. Before any regulatory decision is made, the radiological risk and economical benefits, which can be gained from improvements made, should be reviewed first in tandem with two principles i.e: Risk or Radiation As Low As Reasonably Achievable (ALARA) and Safety As High As Reasonably Achievable (SAHARA).

- 1.4.4 To efficiently perform regulatory activities, even with limited capabilities and time, appropriate prioritization of regulatory activities must be made based on risks, costs and other factors. Regulatory alternatives which minimize cost are adopted unless they increase the degree of risk, and in all cases, resources should be used effectively for the improvement of nuclear safety, security and safeguards.

1.5 Reliability

- 1.5.1 The regulatory authority endeavors to eliminate public distrust and fear of nuclear activities and obtain the public's trust and support through fair legislation based on technical and professional judgments. Regulatory decisions must be made promptly, fairly and reliably with full integrity based on the best available knowledge, from regulatory assessment, verification, research and operational experience.

- 1.5.2 The regulatory authority obtains up-to-date technical information on nuclear safety, security and safeguards and applies this information to regulatory activities. When regulatory requirements need to be either newly established or changed, the best option is adopted after the effectiveness of its implementation and technological difficulties resulting from any changes are sufficiently reviewed.

- 1.5.3 The regulatory authority does its best to run its responsibilities sufficiently and systematically, and to thoroughly enforce the regulations in order to secure the public's trust and confidence on nuclear safety, security and safeguards infrastructure. An important source of reference, inter alia, is the Regulatory Standards developed by the International Atomic Energy Agency (IAEA) based in Vienna, Austria.

2.0 STRATEGIES

In order for the regulatory authority to achieve the nuclear regulatory statement goal, and to ensure the safety, security and peaceful use of atomic and nuclear energy and its related activities in Malaysia, among many others are, **six (6) key strategies** which have been identified, as follows:

- 2.1 **Strategy 1:** Enhancement of an effective legal governmental framework for radiation and nuclear safety, security and safeguards. This can be achieved by conducting its activities in a manner that does not compromise its independence and avoiding any conflicts of interest; and ensuring that the application of the regulatory requirements is robust and consistent as well as detailing out the relevant safety objectives and make these criteria available to interested parties.

- 2.2 **Strategy 2:** Effective co-operation and active participation at national and international levels in technical and policy issues of radiation and nuclear safety, security and safeguards.

Where several authorities are involved in regulatory activities, arrangements to effectively co-ordinate each regulatory function shall be established so as to avoid any omission or unnecessary duplication and to prevent conflicting requirements being placed on the person or organization responsible for any facilities or activities.

The regulatory authority shall also establish formal and informal mechanisms of communication and venues for discussion with the person or organization responsible for facilities and activities for all safety, security and safeguards-related issues, involving a professional and constructive two-way interaction.

- 2.3 **Strategy 3:** Enhancement of supervision mechanism towards licensees' compliance to the regulatory requirements and customer satisfaction, by establishing, implementing, assessing and continually improving a management system, obtaining technical or other expert professional advice or services, as necessary, to support its regulatory functions, reviewing and assessing information relevant to the safety of facilities and activities, carrying out inspections of facilities and activities to verify that licensees comply with the national regulatory requirements and the conditions upon which authorization was granted, and lastly, establishing and implementing an enforcement policy, in accordance with the national legal system, for non-compliance by licensees of regulatory requirements or with any condition specified in the authorization.

- 2.4 **Strategy 4:** Enhancement of effective arrangements for emergency preparedness and response for nuclear and radiation incidents and accidents.

The regulatory authority shall manage its resources structure to ensure that it discharges its responsibilities and functions in an effective manner, namely, graded according to the magnitude and nature of the hazards posed by facilities and activities.

2.5 **Strategy 5:** Building capacity and capability of regulatory infrastructure and human capital.

Each regulatory authority shall employ a sufficient number of qualified and competent personnel to undertake its functions and discharge its responsibilities, commensurate with the number and nature of the facilities and activities to be regulated.

2.6 **Strategy 6:** Protection and assurance of the inalienable rights to develop nuclear technology safely and securely for peaceful purposes in Malaysia and to foster public confidence in peaceful uses of radiation and nuclear technology.

The pre-requisites for the regulatory authority to achieve this strategy are firstly, the authorization by the regulatory authority shall be a pre-requisite for all facilities and activities. The regulatory authority shall be empowered to attach conditions for any authorization. The applicant shall be required to submit an adequate demonstration in accordance with the regulatory requirement in support of an application for authorization; and secondly, to encourage the utility to foster the benefit of the development of nuclear and its related activities to the local public, as their Corporate Social Responsibility, through a mechanism agreed upon by all parties.

3.0 CONCLUSION

Nuclear safety, security and safeguards cannot be achieved in a day, but rather it is secured through the licensees' constant efforts to improve nuclear safety, security and safeguards and through the regulator's thorough enforcement activities. Nonetheless, the user is responsible for nuclear safety, security and safeguards compliance. In the overall view, Malaysia will always recognize the International Atomic Energy Agency as a sole reference United Nations (UN) agency in matters related to the development of nuclear and its related activities in Malaysia. To this end, Malaysia is devoted to developing a higher level of nuclear safety, security and safeguards regulatory system in accordance to IAEA Requirements.

In conclusion, it is reaffirmed that the assurance of nuclear safety, security and safeguards is the highest priority of the regulatory authority and ensures that such an important role is performed dutifully to secure nuclear safety, security and safeguards to protect the public and the environment.

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