**National Nuclear Security Regime In The State Of Kuwait: Role Of The IAEA**

N. AL-AWADHI

Kuwait Institute for Scientific Research

Shuwaikh, Kuwait City, Kuwait

Email: [nawadi@kisr.edu.kuw](mailto:nawadi@kisr.edu.kuw)

**Abstract**

The cooperation with the IAEA is guided in particular by the directions and priorities defined in Kuwait’s Integrated Nuclear Security Support Plan (INSSP), whose one of the key objectives is to “establish formal governmental organization and measures for managing the national nuclear security regime” and which focusses on addressing immediate and future national nuclear security needs and priorities. The INSSP has proved to be an effective mechanism supporting a holistic strategic and graded approach to strengthening the country’s nuclear security regime and plays a key role in channeling efforts and resources towards achieving in the shortest time possible a strong and sustainable nuclear security infrastructure. Its implementation makes an important contribution to the overall security in the country through strengthening institutional, human and technical capability in various aspects of nuclear security, including control and securing of radioactive sources, national response plan, illicit trafficking and border controls. The INSSP’s scope covers all required components from the legal and regulatory framework to prevention, detection and response to prevent any unauthorized acquisition, supply, possession, use, transfer or disposal of nuclear and other radioactive material. The cooperation in the field of Nuclear Security started in 2006 where the first International Nuclear Security Advisory Service (INSServ) mission took place followed by many meetings that led to the establishment of the INSSP in 2009. The IAEA support is extremely vital in establishing the Nuclear Security Regime in the country. In this context, special efforts are being deployed by relevant stakeholders to strengthen further the national system for the security of radioactive materials to secure their protection against any malicious acts. The present paper outlines the cooperation with the IAEA and the significant steps undertaken and activities carried out to this effect and stresses in terms of lessons learned the importance of stakeholders’ involvement to achieve this goal.

* 1. INTRODUCTION

Nuclear security has increasingly emerged over the past years as one of the most critical global issues posing considerable challenges worldwide. Nuclear terrorism, with its potential catastrophic consequences on people, national infrastructures and the environment, is one of the major threats facing the world today. Preventing nuclear terrorism is one of the main concerns of the international community and a driver of the collective efforts to strengthen further nuclear security globally through enhanced international cooperation mechanisms. Consistent with its long-standing political commitment to the international nuclear security regime, the Government has put nuclear security high on its agenda and accords special attention to the cooperation in this field with the IAEA and with the countries in the region, in particular within the Gulf Cooperation Council (GCC).

The cooperation with the IAEA in the field of Nuclear security started in November 2006 ,where by an INSServ mission ,based on the invitation of Ministry of Interior , had undertaken an extensive review the security measures in place, visited relevant facilities and interview officials and technical personnel in order to assess the security of radioactive material in non-nuclear applications including the protection of vulnerable radioactive sources and of radioactive waste; to assess Kuwait's existing legal and legislative framework; assessing Kuwait's ability to detect and respond to the illicit trafficking of nuclear and other radioactive material; and to assess Kuwait's level of planning and preparedness for responding to nuclear security incidents and emergencies. The report of the INSServ mission was endorsed by Kuwait Government and was the basis for the establishment of Kuwait’s Integrated Nuclear Security Support Plan (INSSP).

Nuclear security is guided in particular by the directions and priorities defined in Kuwait’s Integrated Nuclear Security Support Plan (INSSP), whose one of the key objectives is to “***establish formal governmental organization and measures for managing the national nuclear security regime”*** and which focusses on addressing immediate and future national nuclear security needs and priorities. The INSSP has proved to be an effective mechanism supporting a holistic strategic and graded approach to strengthening the country’s nuclear security regime and plays a key role in channeling efforts and resources towards achieving in the shortest time possible a strong and sustainable nuclear security infrastructure. Its implementation makes an important contribution to the overall security in the country through strengthening institutional, human and technical capability in various aspects of nuclear security, including control and securing of radioactive sources, national response plan, illicit trafficking and border controls. The INSSP’s scope covers all required components from the legal and regulatory framework to prevention, detection and response to prevent any unauthorized acquisition, supply, possession, use, transfer or disposal of nuclear and other radioactive material.

In this context, special efforts are being deployed by relevant stakeholders to strengthen further the national system for the security of radioactive materials to secure their protection against any malicious acts. The present paper outlines the most significant steps undertaken and activities carried out to this effect and stresses in terms of lessons learned the importance of stakeholders’ involvement to achieve this goal.

## Further strengthening OF the national legal and regulatory framework for the security of radioactive material

## Nuclear safety and nuclear security are closely intertwined and many safety and security activities complement each other. Progress in one area often serves the other. National stakeholders recognize in this regard the importance of putting in place a comprehensive national legislation to ensure that the activities carried out in Kuwait in the various areas of peaceful uses of nuclear technology are implemented in a safe and secure manner.

## With regard to safety, as Kuwait has no nuclear reactors in operation and the deployment of nuclear power is not considered at present as an option in the short and medium terms, the focus is on enforcing radiation safety standards through an effective regulatory control of radioactive and nuclear materials. Noticeable progress has been achieved over the past several years by the national competent authorities to build and sustain a national robust radiation safety infrastructure in compliance with the International Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of Radiation Sources (BSS). The Amiri Decree No.131/1977 (“The Control of the Use of Ionizing Radiation and Protection from the Hazards Thereof") establishes the legal basis for the uses of radioactive sources and nuclear material in Kuwait and subsidiary regulations (Ministerial Decisions) and procedures form a strong regulatory and enforcement system. The responsibility of protecting the public and the environment against all radiation potential hazards is assigned to the Ministry of Health (MoH) with the function of National Regulatory Authority.

## The same decree establishes the National Radiation Protection Committee (NRPC) whose membership includes relevant governmental bodies concerned by the issue of radiation protection, such as Ministry of Health, Ministry of Electricity and Water, Public Environmental Protection Authority, Civil Defense, Kuwait University, and Kuwait Institute of Scientific Research. MoH authorizes the NRPC and the Ministry’s Radiation Protection Department (RPD) to carry out various tasks. The legal part of the Ministry’s authority is delegated to the NRPC for issuing licences and the technical part of the authority is delegated to the RPD. The responsibilities of the NRPC include, among others, monitoring the requirements for licensing of radiation practices, applications and sources; ensuring the proper application of laws and regulations in inspection and licensing; and suggesting drafts of regulations and recommendations for radiation protection infrastructure improvements. All radioactive sources used in Kuwait are under the regulatory supervision of the RPD. A license is required for the import, use and transport of radioactive sources, the Regulatory Authority Information System (RAIS) software is used to register all radioactive sources in Kuwait, and inspections for checking compliance with requirements are taking place. Further, the national technical capacity for detecting and localizing orphan sources has been strengthened, which can be used in cases of illicit trafficking, theft, voluntarily or unintentional misplacement or loss of a radiation source.

## Safeguards are also relevant to nuclear security as both are interrelated and complement each other in relation to their respective primary aim. Compliance with safeguards’ legal provisions regarding nuclear material accounting and control and the implementation of physical protection measures help to deter and detect possible misuses of nuclear material and malevolent acts. The RPD is the State Authority responsible for the effective implementation of IAEA safeguards under the Agreement on the application of Safeguards in connection with the Treaty on Non Proliferation of Nuclear Weapons (INFCIRC/607/Mod.1 Agreement). Regular accounting for nuclear material and reporting are made to the IAEA as part of the fulfilment of the country’s obligations under the Safeguards Agreement, including annual reporting to the IAEA with respect to the inventory for the Small Quantity Protocol (SQP), the import and export of nuclear material subject to safeguards, and the submission of declarations pursuant to the implementation of the Additional Protocol (AP), mainly declarations on Depleted Uranium (DU) covering the Locations Outside Facility (LOFs) in the country.

## The State of Kuwait has ratified or accepted several nuclear security related instruments, including The International Convention for the Suppression of Acts of Nuclear Terrorism, The Resolution 1540 adopted by the UN Security Council in 2004 and has acceded to relevant Conventions under the auspices of the IAEA and other international instruments dealing with nuclear security, including the Convention on the Physical Protection of Nuclear Material (CPPNM) and its Amendment, the Convention on Early Notification of a Nuclear Accident, and the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency. Kuwait has also endorsed and implements the guidance contained in the IAEA Code of Conduct on the Safety and Security of Radioactive Sources. And lately the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management (Joint Convention) which has been accepted by the Government and awaiting ratification by the Parliament .

## National stakeholders are aware of the fact that the effective implementation of the above-mentioned nuclear security related international legal instruments resides in the extent to which relevant provisions are incorporated in the national legislative and regulatory framework. This important issue is given special attention by the highest authorities of the country. Important steps are being undertaken to this effect by the national competent authorities with the active contribution of the regulatory body to strengthen further the national legislative framework and regulatory infrastructure with respect to all aspects related to nuclear security. In this connection, there are plans to review the Amiri Decree No.131/1977 and subsidiary regulations (Ministerial Decisions) to achieve consistency with some of the requirements emanating from the conventions’ obligations, particularly regarding nuclear security to integrate provisions relative to the security of radioactive sources. The IAEA was sought to provide expert assistance to review the existing legislation and relevant regulations so that they are in compliance with IAEA requirements and international best legal and regulatory practice with respect to nuclear security.

## Enhancing domestic interfaces AND STRENGTHENING stakeholders’ involvement

Special attention has been constantly attached to the necessity of setting up an effective overall coordination mechanism to ensure the continued participative involvement of all relevant national stakeholders and their sustained contribution to the on-going effort towards strengthening the national nuclear security system and measures for preventing, detecting and responding to any nuclear security events. In this regard, the inception and implementation of the INSSP has created conducive conditions for setting up enhanced coordination mechanisms and delineating the individual responsibilities of the various national nuclear security stakeholders. It has also been an important driver for building capacity in nuclear security and promoting a stronger nuclear security culture within the country.

An Inter-ministerial National Consultative Committee chaired by KISR for monitoring the implementation of the INSSP was set up since 2008. Membership of the Committee includes the following: Radiation Protection Department (MoH), State Border Guard Service, Police Department, General Administration of Customs, National Guards, Kuwait Fire Service Directorate (KFSD) Hazmat Team, Civil Defence, Ministry of Defense (Weapons of Mass Destruction (WMD) Command), Ministry of Foreign Affairs.

Also, in accordance with the IAEA guidance, a ***National Committee for Radiological Emergency and Nuclear Security was established by Ministerial Decree No. 107/2018*** issued by the Deputy Prime Minister and Minister of Interior. The Committee is chaired by the Assistant Undersecretary for Operations Affairs and its membership includes representatives of the following government departments/institutions: Ministry of Foreign Affairs; Ministry of Defense; Ministry of Electricity and Water; Ministry of Health; Ministry of Information; Ministry of Interior; Ministry of Oil; Ministry of Commerce and Industry; National Guard; Civil Aviation Administration; Public Authority for Agriculture Affairs and Fish Resources; Environment Public Authority; Kuwait City Municipality; Kuwait Fire Service Directorate; Kuwait Institute for Scientific Research; Union of Cooperative Societies. Among other functions, the National Committee is entrusted to carry out the following duties:

1. To work out a national plan for nuclear security and supervise its implementation for the protection and security of radioactive and nuclear materials, devices and public facilities hosting or using such materials in the State of Kuwait.
2. To devise a policy to combat the smuggling of radioactive and nuclear materials, to prevent against terrorist operations using nuclear and radioactive materials, and coordinate its implementation with the concerned authorities.
3. To develop training programmes in the areas of nuclear and radiation safety and nuclear security to support the development of national expertise in the ministries and institutions concerned and to qualify the teams operating in the field.
4. To follow up on the preparation and implementation of table-top exercises and field exercises in the areas of nuclear and radiation safety and nuclear security.

Furthermore, in pursuance of the established national policy to foster appropriate integration and coordination of responsibilities on nuclear security related matters through institutionalising collaboration among the main national stakeholders, several Agreements and Memorandums of Understanding (MoUs) are being implemented. For instance, the General Administration of Customs has agreements with KISR and RPD, while agreements with MoH as well as with the Ministry of Trade are being established. Also, an on-going Protocol of Agreement facilitates institutionalised collaboration between the Fire Brigade and National Guards.

## Setting up a robust national detection infrastructure

Special consideration is being given in Kuwait to strengthening further physical protection in all facilities using nuclear and radioactive material (industries, hospitals, research institutions, etc.) and enforcing appropriate measures to prevent thefts, intentional misuses and any malevolent acts involving nuclear and radioactive materials, as well as establishing an adequate response capacity to deal with any radiological emergencies associated with malicious acts.

In this connection, the evaluation of threats through a threat assessment process involving all relevant national authorities and stakeholders leading to a Design Basis Threat (DBT) was deemed of paramount importance for assessing threats and designing nuclear security arrangements to deal with the potential consequences of any malevolent actions. A national DBT workshop was held in May 2018 to introduce national stakeholders to the methodology for developing a DBT from a national threat assessment, to establish and evaluate physical protection requirements, and to work out appropriate modalities for implementing a DBT in the national regulatory framework. Efforts are underway to devise appropriate and effective threat based physical protection systems and measures and to develop and implement eventually a Roadmap for building a robust Nuclear Security Detection Architecture (NSDA) for Material Out of Regulatory Control (MORC).

IAEA provided Kuwait with multiple radiation detection equipment: Multipurpose detection and identification system with neutron detection capability, Survey Meters, High-resolution gamma spectrometry. IAEA assisted Kuwait in developing MEST team to provide support in detection and to respond to illicit trafficking of nuclear and other radioactive materials:

• National Workshop on Development of Mobile Expert Support capacity in Nuclear Security applications (24-27 January 2011)

• Consultancy Meeting for the Revision of the Mobile Expert Support Team (MEST) training Material in March 2012.

• Currently, there are plans to install monitoring equipment including portal monitors at major seaports, international airports, and land border crossing points in view of the large flow of goods and people through these locations.

• Also, the General Administration of Customs is currently preparing a deployment plan (based on IAEA recommendations).

5. ENFORCING EFFECTIVE MEASURES TO ENSURE THE SECURITY OF RADIOACTIVE MATERIALS AND ASSOCIATED FACILITIES AND BORDERS’ CONTROL

The national regulatory framework includes the Ministerial Decree 144/2014 on the security of radioactive sources. Enforcement provisions are included in the national legislation, which in turn refers to the national Penal Code. Furthermore, in addition to addressing radiological protection concerns related to the increasing use of radiation sources and radioactive materials in various areas of peaceful applications of nuclear technology in the country, some of the provisions of the existing national legislation and subsidiary regulations reinforce the objective of nuclear security. This includes the implementation of an effective system of authorization and licensing for the use and transport of radioactive material, and the development of a national inventory of radioactive material and radiation sources to keep record of and track radioactive sources, particularly Category 1, 2 and 3 sources, the establishment of criteria for authorizing access and the implementation of physical protection measures at associated facilities (hospitals, industry, research institutions, etc.) to reinforce security for radioactive sources.

The national legislation provides that no radiation device or radioactive substance may be imported, exported, manufactured, possessed, bought, sold, transported or disposed of, without obtaining a licence for the purpose from the Regulatory Authority and requires that all radioactive materials must be sent back to manufacturers, if not needed after use. Spent radioactive sources such as Ir-192 which are used in industry and oil logging are exported out of the country in compliance with regulations No. 225/2005 and No. 552/2003 and sent back to manufacturers for recycling or reloading with new sources.

With regard to borders’ control, the General Administration of Customs is currently preparing a deployment plan based on IAEA recommendations, under which monitoring equipment including portal monitors are being installed at 8 of our major seaports, international airports, and land border crossing points. Further, engagement in nuclear security of customs and border control enforcement authorities to fight illicit cross-border trafficking is increasing through awareness raising and training programmes. Other actions include enhancing the national measures regarding preparedness for and response to nuclear security events through strengthening detection capabilities and improving coordination mechanisms of response to malevolent acts including unauthorized access to facilities hosting radioactive material, theft, sabotage, and other criminal nuclear security related acts.

6. PARTICIPATE IN INTERNATIONAL INFORMATION EXCHANGE AND COOPERATION FOR NUCLEAR SECURITY EVENTS

Kuwait has Participated in regional and international information exchange and multi-lateral initiatives for coordinating and exchanging information regarding nuclear security events. This includes technical cooperation and assistance, cooperation with respect to criminal offences, recovery and return of seized items, and nuclear forensics cooperation.

Kuwait has joined the IAEA’s Illicit Trafficking Database (ITDB) and nominated 4 points of contact. Report relevant nuclear security events to effected states, or potentially effected states as necessary, and other applicable regional and international organizations in accordance with international obligations and national legislation, including the ITDB.