

The Legal Framework For Regulating Nuclear Facilities

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Abstract:

This study addressed the legal framework for the regulation of nuclear facilities by highlighting the importance of oversight on nuclear establishments, addressing the activation of nuclear security and safety, early reporting of nuclear damages, and elucidating the management of nuclear emergencies and the adoption of preventive measures.

The study recommended the necessity for licensees operating nuclear facilities to have all necessary means and tools to confront any nuclear emergency. It also emphasized the importance of adhering to procedures and measures required for monitoring nuclear facilities, ensuring their safety, and compliance with international and local nuclear safety standards. Furthermore, it called for regulatory bodies overseeing nuclear establishments to conduct periodic visits to ensure that nuclear operators have implemented all necessary nuclear safety tools, means, and measures.

Keywords: *Oversight, Nuclear Safety, Early Reporting, Preventive Measures.*

Introduction:

Regulation of nuclear facilities entails monitoring and supervising establishments operating in the nuclear energy field, ensuring their safety, and compliance with applicable laws and regulations. Thus, oversight of nuclear facilities is one of the fundamental assurances in reducing the occurrence of nuclear incidents and damages. The Saudi regulator has issued a specific system for the regulation of nuclear and radiation uses concurrently with the issuance of the system of civil liability for nuclear damages. According to Article Two of this regulatory system, its goal is to "achieve the highest standards of safety, security, and nuclear assurances for activities and facilities, provide appropriate protection for humans and the environment from the harmful effects of ionizing radiation, and fulfill the Kingdom's obligations under relevant international treaties and agreements".

This study explores the legal framework for the regulation of nuclear facilities by elucidating the importance of oversight on nuclear establishments, discussing the activation of nuclear security and safety, early reporting of nuclear damages, and clarifying the management of nuclear emergencies and the adoption of preventive measures.

The study aims to present an analysis of how oversight of nuclear facilities can prevent nuclear accidents through various means such as activating nuclear security and safety, early reporting of nuclear damages, confronting nuclear emergencies, and implementing preventive measures.

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Research Methodology:

The research methodology on the regulation of nuclear facilities relies on employing an analytical approach to comprehend the methods and procedures used in achieving such oversight. This is done through the analysis of legal texts from international agreements and national laws, as well as the examination of legal trends and opinions, with the aim of arriving at a precise and clear understanding of effective oversight mechanisms in addressing and mitigating nuclear incidents.

The Importance and Forms of Oversight on Nuclear Facilities:

To ensure the safety of nuclear activities in the state, it is imperative for the state to legally enforce a set of procedures that ensure the safe conduct of nuclear activities by the operator. These regulatory procedures typically begin with the establishment of an official administrative entity responsible for overseeing nuclear activities, whether by authorizing the conduct of activities or supervising them. Subsequently, the state, represented by this founding entity, imposes a set of procedures according to the legal regulation of nuclear activity. This firstly involves notifying this administrative entity in advance of the intended activity, and then obligating those authorized by it to engage in this nuclear activity to adhere to systems of safety, protection, and emergency preparedness that ensure the safety of the activity (Ali, 2013).

The entity responsible for supervising nuclear activities in the Kingdom is the Nuclear and Radiological Regulatory Commission. The commission aims to regulate activities, practices, and facilities involving peaceful uses of nuclear energy and ionizing radiation, monitor and ensure nuclear safety, security, and safeguards for such uses, protect humans and the environment from any actual or potential radiation exposure, including natural radiation, and fulfill the Kingdom's obligations under related treaties and agreements.

According to Article (3) of the regulation of the Nuclear and Radiological Regulatory Commission, issued by Cabinet Resolution No. (334) dated 25/6/1449H, the commission is tasked with the following duties and responsibilities: developing policies and regulations that ensure supervision over activities, practices, and facilities; establishing regulations for nuclear safety, security, and safeguards, and verifying their implementation; monitoring the export, import, and circulation of nuclear materials and their related items and radioactive materials; setting requirements for nuclear and radiological emergency preparedness; supervising and inspecting activities, practices, and facilities within its jurisdiction; raising awareness about the dangers of ionizing radiation; cooperating with governmental entities, similar bodies in other countries, and international organizations regarding its competencies; representing the Kingdom before the agency and related international organizations; and any other tasks deemed necessary by the commission for protecting humans and the environment from the risks of ionizing radiation. The commission may also seek assistance from non-staff members for some of its designated tasks.

International nuclear supervision takes two forms: The first form, narrow supervision, involves the international organizations' control over the nuclear materials they own within a specific system for storing and protecting the materials in their possession, ensuring their use for peaceful purposes only. This form of supervision is known as internal supervision.

The second form, broad supervision, is carried out by international organizations through their various bodies on states, within a legal and technical system, to ensure that the nuclear materials provided by these organizations, or through them, under their supervision or control, are not diverted for any military purpose. This form of supervision, known as safeguards, also includes promoting the peaceful uses of nuclear energy (Younes, 1979; Maher, 1980).

In the context of supervision, licensing requirements are essential for all major activities related to the use of nuclear energy (Abu Nazal, 2019). According to Article (2)

of the Saudi Regulation on the Supervision of Nuclear and Radiological Uses, nuclear licensing is the state's primary means of ensuring prevention and safety in the nuclear field.

Therefore, the Regulation on the Supervision of Nuclear and Radiological Uses states in Article (5) that no one may engage in any activity without a license or exemption issued by the commission according to its regulations. Anyone wishing to start any activity must notify the commission of their intention. The applicant for a license must have all means, capabilities, and financial resources to conduct the licensed activity, ensuring compliance with nuclear safety, security, and safeguards requirements.

It is evident that supervision of nuclear facilities and activities at the national level in the Kingdom of Saudi Arabia is conducted by the Nuclear and Radiological Regulatory Commission, and at the international level, the International Atomic Energy Agency is the entity entrusted with the supervision of nuclear facilities.

Activating Nuclear Security and Safety:

Nuclear security and safety of nuclear facilities represent fundamental pillars of nuclear assurances, holding significant importance for regulators both nationally and internationally. Consequently, the Kingdom of Saudi Arabia hastened to join and sign several treaties related to nuclear security and safety, including the Convention on the Physical Protection of Nuclear Material, ratified by Royal Decree No. M/40 dated 12/07/1429H; the Comprehensive Safeguards Agreement and its accompanying Small Quantities Protocol, ratified by Royal Decree No. M/51 dated 11/8/1429H; and the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management, ratified by Royal Decree No. M/64 dated 01/11/1431H, among other agreements and memorandums of understanding with various countries.

The Saudi regulator defines nuclear security in Article (1) of the Nuclear and Radiological Uses Control System as the prevention or detection of any theft, sabotage, unauthorized access or transfer (or any other criminal act) of nuclear materials and their accessories, or radioactive materials or related facilities. The same article defines nuclear safety as the protection of humans and the environment from radiation hazards and the safety of facilities and activities generating such hazards.

Nuclear security concerns the protection against external threats that could jeopardize nuclear activities. Safety, on the other hand, encompasses technical and regulatory measures taken to ensure that the operation of a nuclear facility or the transportation of nuclear materials poses as minimal risk as possible, acceptable to workers, the public, and the environment (Abdul Latif, 2019). Thus, nuclear safety, often referred to as nuclear safety measures, includes technical and organizational measures for facilities and materials regarding their sealing, operation, and shutdown, and the transportation of radioactive materials to prevent or mitigate accidents.

Activities associated with nuclear energy and radioactive sources are subjected to a set of standards aimed at achieving nuclear and radiological security and physical protection, only permissible after obtaining prior licensing from a regulatory authority designated by the state for this purpose (Al-Rayahi, 2016; Nasr El-Din, 2007), represented in Saudi Arabia by the Nuclear and Radiological Regulation Authority.

Article (7) of the Nuclear and Radiological Uses Control System specifies the responsible entity for security and safety in nuclear activities, stating that the licensee holds full responsibility for the safety, security, and nuclear guarantees of the activity, continuing even if the license is not renewed, suspended, or revoked, as determined by the authority's regulations.

Furthermore, Paragraph two of Article (1) of the Saudi Nuclear and Radiological Uses Control System mandates the licensee as the primary responsible entity for security concerning the activities, practices, facilities, and radiation sources licensed to them. It also specifies the licensee's responsibility to ensure the safety and security of radioactive waste and spent fuel, both within and outside disposal facilities.

Violating the procedures of nuclear security and safety as determined by the Nuclear

and Radiological Regulation Authority is considered a punishable offense under Article (24) of the Nuclear and Radiological Uses Control System.

Hence, numerous national laws, international instruments, regulatory documents, and expert comments emphasize that safety is the primary prerequisite for the use of nuclear energy and ionizing radiation applications. The foundational principle of safety is "the principle of prevention," which aims to promote caution and vigilance to prevent harm from the use of nuclear technology and minimize adverse consequences from misuse or accidents (Carlton Stoiber, Alec Baer, Norbert Pelzer, Wolfram Tonhauser, 2006; Barkat, 2012).

It's essential to remember that the modern development of nuclear technology traces back to military programs implemented by several countries. If certain nuclear materials and technologies pose risks to health and safety when diverted to non-peaceful purposes, they equally pose security risks to individuals and social institutions. Lost or neglected radiation sources can cause physical injuries to people unaware of the associated risks or if they fall into the hands of terrorist groups or irresponsible entities. Therefore, measures must be taken to protect against the accidental or intentional diversion of these materials and technologies from their legitimate uses (Carlton Stoiber, Alec Baer, Norbert Pelzer, Wolfram Tonhauser, 2006; Gregoric, 2007; Barkat, 2012).

The researcher believes that the security and safety of nuclear activities provide the main assurance for the safe use of nuclear energy and the minimization of nuclear damage.

Early Reporting of Nuclear Damage:

The Kingdom of Saudi Arabia did not hesitate to join and sign international treaties related to early notification of nuclear incidents. Among these treaties is the Convention on Early Notification of a Nuclear Accident, ratified by Royal Decree No. M/51 on 16/10/1409H, held under the auspices of the International Atomic Energy Agency in September 1986, and entered into force internationally in October 1987. This Convention aims to ensure the availability of sufficient information about nuclear incidents immediately after their occurrence to minimize the cross-border radiological consequences and effects (Mohammed, 2009; Awinat, 2009). This Convention sought to address the shortfall in international law, as the Chernobyl accident in 1986 highlighted these gaps or imbalances (Nouri, 2018). Therefore, this Convention obliges its member states to notify in case any nuclear facility experiences an incident that could lead to the release of nuclear materials in a manner that endangers the safety of neighboring states (Hannoun, 2016).

The Saudi regulator, in Article (8) of the Nuclear and Radiation Usage Control System, mandated early notification of nuclear damages by the licensee, stating: "In the event of a nuclear or radiation emergency, incident, release of a radiation source or nuclear material out of control, theft of nuclear material or radioactive material, illegal possession of any of them, sabotage of a facility or the threat of sabotage; the licensee must: 1- Immediately notify the Authority. 2- Submit a written report to the Authority about the event. 3- Provide any additional information and offer any assistance requested by it."

From the aforementioned text, it is evident that the Saudi regulator obligates the licensee to notify the Nuclear and Radiation Regulation Authority in case of any nuclear or radiation emergency, incident, release of a radiation source or nuclear material out of the licensee's control, theft of nuclear material or radioactive material, illegal possession of any of them, or sabotage of a facility or the threat thereof. This notification must include a written report about the event, and the licensee is required to provide any information or assistance requested by the Authority.

It is clear from the above: The licensee is obliged to inform the Nuclear and Radiation Regulation Authority about any incident or emergency that occurs. Additionally, it is the state's responsibility to notify the International Atomic Energy Agency of the nuclear incident or emergency if there is a possibility that the nuclear incident could extend beyond the state's borders.

Confronting Nuclear Emergencies and Taking Preventive Measures

The most significant preventive measures to minimize nuclear damages in the event of nuclear and radiological emergencies include preparation and readiness to face any nuclear emergency, constituting a fundamental guarantee to limit or mitigate nuclear damages. Article (1) of the Nuclear and Radiation Usage Control System defines a nuclear or radiological emergency as a situation that results in or is likely to result in radiation exposure hazards. Generally, an emergency is an unusual situation that requires immediate action aimed at reducing the risk or the harmful consequences to human health, safety, quality of life, property, or the environment (Abdul Latif, 2019; Al-Arfaj, 1998).

Naturally, there must be an emergency plan to address any malfunctions or accidents that may arise from a nuclear reactor, including conducting periodic drills or training to test their effectiveness and suitability in responding to nuclear and radiological incidents or minimizing their harmful impact as much as possible (Abdul Latif, 2016).

The Nuclear and Radiation Regulation Authority, according to Article (16) of the Nuclear and Radiation Usage Control System, sets requirements for the preparedness and response plans for facilities and activities. These requirements are part of the conditions for obtaining and renewing licenses. The licensee develops the emergency preparedness and response plan for the facility they operate, reviews, updates, and periodically tests it, and the Authority approves the plan and any updates to it.

Regarding the entity designated for nuclear emergencies, Article (17) of the Saudi Nuclear and Radiation Usage Control System stipulates the following procedures in the event of a nuclear or radiological emergency: 1- The licensee implements the nuclear or radiological emergency plan approved by the Authority. 2- If there is a potential for radiological contamination to spread outside the facility, the national plan for responding to radiological and nuclear emergencies is activated. 3- If there is a potential for radiological contamination to exceed the boundaries of the Kingdom, the Authority immediately notifies the Agency and provides any information or assistance concerning the nuclear or radiological emergency as required by the relevant international agreements.

Therefore, the responsibility for preparedness and response to a nuclear or radiological emergency rests with the operator and the state. Although state authorities play their role in managing emergencies, their intervention does not replace the operator's readiness for and response to emergencies. Thus, legislation aims to delineate the scope of responsibility the operator assumes in emergencies and another scope where state authorities also bear responsibility (Abdul Latif, 2019).

Hence, the emergency response process aims to (Al-Baroudi, 2012):

- 1- Regain control of the situation.
- 2- Prevent or minimize the fallout (outcomes) at the incident scene.
- 3- Prevent health effects on workers and the public.
- 4- Provide the necessary first aid for radiation injuries.
- 5- Prevent potential radiation effects on the public to the greatest practical extent.
- 6- Prevent non-radiation effects on the public to the greatest practical extent.
- 7- Protect property and the environment to the greatest extent possible.
- 8- Prepare for the restoration of social and economic conditions to their pre-incident state to the greatest extent possible.

Based on the above: The existence of a plan for facing and confronting a nuclear emergency constitutes a guarantee of nuclear protection, indicating the readiness of the licensee and the state to address any nuclear incident either by preventing it or minimizing its spread and damages.

Results:

The study's findings revolve around identifying the legal basis for the operator's liability for nuclear damages, and the results manifested as follows:

1. The regulation of nuclear facilities and activities at the national level in the Kingdom of Saudi Arabia is conducted by the Nuclear and Radiological Regulation

- Authority, whereas at the international level, the entity tasked with overseeing nuclear facilities is the International Atomic Energy Agency (IAEA).
2. The security and safety of nuclear activities form the main guarantee for the safe use of nuclear energy and the prevention of any nuclear damage.
 3. The licensee is obligated to notify the Nuclear and Radiological Regulation Authority of any incident or emergency that occurs. Additionally, it is the state's responsibility to inform the IAEA of the incident or nuclear emergency if there is a possibility that the incident could extend beyond the state's borders.
 4. The existence of a plan to address and confront a nuclear emergency constitutes a guarantee among nuclear protection measures, indicating the readiness of the licensee and the state to deal with any nuclear incident, either by preventing its occurrence or minimizing its spread and damages.

Recommendations:

Based on the results derived from the study of the legal basis for civil liability in the nuclear field, the following recommendations can be proposed:

1. It is essential to adhere to the procedures and measures required for monitoring and overseeing nuclear facilities, ensuring their safety, and compliance with both international and local nuclear safety standards.
2. The licensee operating a nuclear facility must have all necessary means and tools available to address any nuclear emergency.
3. Regulatory bodies overseeing nuclear facilities should conduct periodic visits to ensure that the nuclear operator has implemented all necessary tools, means, and safety measures for nuclear safety.

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References:

- Abu Nazel, Hany Maher Anas. (2019). Legal Protection of Nuclear and Radiological Materials, Ph.D. thesis, Faculty of Law, University of Alexandria.
- Al-Alma'i, Yasser Mohammed. (2014). Criminal Protection of Nuclear and Radiological Security and Safety. *Journal of Rights for Legal and Economic Research and Studies*, Faculty of Law, University of Alexandria, Issue (1): 759-831.
- Al-Baroudi, Marvat Mohammed. (2012). Legal Regulation of Nuclear and Radiological Incidents and Compensation for Them, Al-Baroudi, Dar Al-Nahda Al-Arabiya, Cairo.
- Barakat, Mahmoud. (2012). International Risks of Unlawful Trading and Trafficking in Nuclear Materials. *Atomic Energy and Development Bulletin*, Volume (24), Issue(4).
- Hanoun, Mohsen Ghali. (2016). The Legitimacy of Using Nuclear Energy for Peaceful Purposes, Mohsen Ghali Hanoun, Halabi Legal Publications, Lebanon.
- Al-Riyahi, Adel. (2016). Security of Nuclear and Radiological Energy - Legislative and Regulatory Framework, *Studies Magazine*, Bahrain Center for International, Strategic and Energy Studies, Volume Three, Issue (1): 109-121.
- Abdel Latif, Mohammed Amin Youssef. (2016). State Responsibility for Nuclear and Radiological Environmental Pollution Damages. 1st Edition. Abdel Latif, National Center for Legal Publications, Cairo.
- Abdel Latif, Mohammed Mohammed. (2019). Encyclopedia of Nuclear Law, Mohammed Mohammed Abdel Latif, Dar Al-Fikr Al-Qanuni.
- Ali, Alaa Hussein. (2013). Administrative Guarantees for Peaceful Use of Nuclear Energy. The Twenty-First Annual Conference "Energy between Law and Economics", United Arab Emirates University, Part Two: 539-599.
- Elfeky, A. I. M., Najmi, A. H., & Elbaly, M. Y. H. (2023). The effect of big data technologies usage on social competence. *PeerJ Computer Science*, 9, e1691.

- Elfeky, A. I. M., & Elbyaly, M. Y. H. (2023). THE EFFECT OF E-TUTORIAL PROGRAMS ON IMPROVING THE PRODUCING DIGITAL CONTENT SKILL. *European Chemical Bulletin*, 12, 6581-6587.
- Elfeky, A. I. M., & Elbyaly, M. Y. H. (2023). MANAGING DRILL AND PRACTICE PROGRAMS WITH A MOTIVATIONAL DESIGN AND THEIR EFFECTS ON IMPROVING STUDENTS' ATTITUDES TOWARD INFORMATION AND COMMUNICATION TECHNOLOGY COURSES. *European Chemical Bulletin*, 12, 6567-6574.
- Elfeky, A. I. M., & Elbyaly, M. Y. H. (2023). THE IMPACT OF PROJECT-BASED LEARNING ON THE DEVELOPMENT OF COGNITIVE ACHIEVEMENT IN THE COURSE OF APPLICATIONS IN EDUCATIONAL TECHNOLOGY AMONG STUDENTS OF THE COLLEGE OF EDUCATION AT NAJRAN UNIVERSITY. *European Chemical Bulletin*, 12, 6643-6648.
- Elbyaly, M. Y. H., & Elfeky, A. I. M. (2023). THE EFFECT OF A SIMULATION PROGRAM ON STUDENTS AT THE COLLEGE OF EDUCATION'S ACQUISITION OF HAND EMBROIDERY SKILLS. *European Chemical Bulletin*, 12, 6575-6580.
- Elbyaly, M. Y. H., & Elfeky, A. I. M. (2023). FLIPPED CLASSROOM: ENHANCING FASHION DESIGN SKILLS FOR HOME ECONOMICS STUDENTS. *European Chemical Bulletin*, 12, 6559-6566.
- Elbyaly, M. Y. H., & Elfeky, A. I. M. (2023). THE IMPACT OF PROBLEM-SOLVING PROGRAMS IN DEVELOPING CRITICAL THINKING SKILLS. *European Chemical Bulletin*, 12, 6636-6642.
- Elbyaly, M. Y. H., & Elfeky, A. I. M. (2023). COLLABORATIVE E-LEARNING ENVIRONMENT: ENHANCING THE ATTITUDES OF OPTIMAL INVESTMENT DIPLOMA STUDENTS TOWARDS THE DIGITAL SKILLS COURSE. *European Chemical Bulletin*, 12, 6552-6558.
- Elfeky, A. I. M., & Elbyaly, M. Y. H. (2023). THE IMPACT OF MOBILE LEARNING ON DEVELOPING THE SKILLS OF INTEGRATED SCIENCE OPERATIONS AMONG STUDENTS OF THE OPTIMUM INVESTMENT DIPLOMA. *European Chemical Bulletin*, 12, 6629-6635.
- Elbyaly, M. Y. H., & Elfeky, A. I. M. (2023). THE EFFECTIVENESS OF USING ADVANCED ORGANIZATIONS WITHIN THE VIRTUAL CLASSROOM TO ENHANCE THE ACCEPTANCE OF TECHNOLOGY DURING DISASTERS. *European Chemical Bulletin*, 12, 6603-6612.
- Elbyaly, M. Y. H., & Elfeky, A. I. M. (2023). THE EFFICIENCY OF ONLINE LEARNING ENVIRONMENTS IN FOSTERING ACADEMIC MOTIVATION. *European Chemical Bulletin*, 12, 6622-6628.
- Elbyaly, M. Y. H., & Elfeky, A. I. M. (2023). THE EFFICIENCY OF INSTRUCTIONAL GAMING PROGRAMS IN STIMULATING CREATIVE THINKING. *European Chemical Bulletin*, 12, 6613-6621.
- Elfeky, A. I. M., & Elbyaly, M. Y. H. (2023). THE EFFECT OF SIMULATION PROGRAMS ON ENHANCING SKILLS OF DIGITAL APPLICATIONS. *European Chemical Bulletin*, 12, 6588-6594.
- Elbyaly, M. Y. H., & Elfeky, A. I. M. (2023). THE EFFECTIVENESS OF EMPLOYING MOTIVATIONAL DESIGNED E-LEARNING SITUATIONS ON DEVELOPING ACHIEVEMENT IN COMPUTER SCIENCE CURRICULA FOR OPTIMAL INVESTMENT STUDENTS. *European Chemical Bulletin*, 12, 6595-6602.
- Awinat, Najib. (2009). Post-Chernobyl 1986 Conventions to Ensure Nuclear Facility Safety, Najib Awinat, *Atomic Energy and Development Bulletin*, Volume(21), Issue (1): 32-35.
- Grigorek, Miroslav. (2007). *Nuclear Security and Nuclear Safety*, Nuclear Security Book, Naif Arab University for Security Sciences, Riyadh.
- Carlton Stoiber, Alec Baer, Norbert Pelzer, Wolfram Tonhauser. (2006). *Nuclear Law*, International Atomic Energy Agency, Vienna, Austria.
- Maher, Mahmoud Maher Mohammed. (1980). *International Safeguards System for Peaceful Nuclear Uses*, Dar Al-Nahda Al-Arabiya, Cairo.
- Mohammed, Neamat Mohammed Safwat. (2009). *Effectiveness of International Protection from Damages of Peaceful Uses of Nuclear Energy*, Mohammed, Ph.D. thesis, Faculty of Law, Ain Shams University.
- Nasr El-Din, Mahmoud. (2007). *Nuclear Security, Peaceful Applications of Atomic Energy and Nuclear Safety Requirements*, Mahmoud Nasr El-Din, Naif Arab University for Security Sciences, Riyadh.

- Nouri, Abdelrahman. (2018). International Legal Regulations for the Peaceful Use of Nuclear Energy, Ph.D. thesis, Faculty of Law and Political Science, Ibn Khaldoun University, Tiaret, Algeria.
- Younes, Mohammed Mustafa. (1979). The Use of Nuclear Energy in Public International Law. Dar Al-Nahda Al-Arabiya, Cairo.