SAFE TRANSPORT OF RM IN EGYPT 2019

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1- Geography and Strategic importance of Egypt Location
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Egypt is one of African countries. It lies at the north east part of the continent.

- It is bounded by two seas the Red sea from east and the Mediterranean from North
Egypt Importance

Egypt is an archeological and touristic country. It has one of the oldest civilizations in the world (Pharaohs‘). Egypt looks over two seas with long extending coasts. It has charming beaches like in sharm El-sheikh and Hurgada in the Red sea and Marsa matruh in the mediterranean. Egypt has an area of 1000000 Km2.
Legislations protecting man and its environment in Egypt:
- Constitution
- Environmental law 4/1994
- Nuclear law 7/2010
Starting with the Egyptian Constitution

Article 46: Individual rights in the environment

– Every individual has the right to live in a healthy, sound and balanced environment.
– Its protection is a national duty. The state is committed to taking the necessary measures to preserve it, avoid harming it, rationally use its natural resources to ensure that sustainable development is achieved, and guarantee the rights of future generations.

Article 43: Protection of Suez Canal

The state commits to protecting, developing and maintaining the Suez Canal as an international waterway that it owns. It is also committed to the development of the canal sector as a significant economic pillar.
Article 44: Protection of the Nile

The state commits to protecting the Nile River, maintaining Egypt’s historic rights thereto, rationalizing and maximizing its benefits, not wasting its water or polluting it. The state commits to protecting its ground water, to adopting methods appropriate to achieve water safety, and to supporting scientific research in this field.

Every citizen has the right to enjoy the Nile River. It is prohibited to encroach upon it or to harm the river environment. The state guarantees to remove encroachments thereon. The foregoing is regulated by law.

Article 45: Seas, Beaches, lakes, waterways, groundwater and natural reserves

The state commits to protecting its seas, beaches, lakes, waterways, ground water, and natural reserves. It is prohibited to encroach upon, pollute, or use them in a manner that contradicts their nature. Every citizen has the right to enjoy them as regulated by law. The state also commits to the protection and development of green space in urban areas; the protection of plants, livestock and fisheries; the protection of endangered species; and the prevention of cruelty to animals, all the foregoing takes place as regulated by law.
Legislations controlling safe transportation in Egypt

SAFE TRANSPORT IN LAW 7/2010
Law 7/2010 deals with safe transport in a number of its articles.

ARTICLE 55
It is prohibited to import, export or transport radioactive material, components, products of RM without approval of CA in accordance with the conditions and criteria identified by it, except for X-Ray machines used in medical field.
ARTICLE 56
A decision of the Authority’s Board of Directors pursuant to provisions hereof determine rules and conditions necessary to safe transport and transit of RM in coordination with the ministry of interior and the competent ministries of transportation such as Civil Aviation, Environmental Ministry, Suez Canal Authority and Atomic Energy Authority and other relevant bodies subject to provisions identified by the international agreements endorsed by Arab Republic of Egypt. Except of these rules and conditions are the following.
A- Radioactive material which is an integral part of the means of transportation.
B- Radioactive material that is incorporated or contained within living human beings or animals for diagnostic or treatment purposes.
C- Raw material and ores containing radioactive material that are excepted by the CA.

ARTICLE 57
The Competent Authority determines the due classification of RM based on the level of risks posed by them in the course of transport in accordance with the relevant international criteria.
ARTICLE 58
The CA in coordination with the relevant ministries of transportation shall set the relevant regulations to ensure that the consignor, the carrier and the consignee are bound by the regulating rules, measures and necessary procedures for protection from ionizing radiation pursuant to the provisions, executive regulations and implementing decisions hereof.

ARTICLE 60
The carrier shall be bound to apply the regulations rules and criteria issued by the CA concerning transport of radioactive material.
Nuclear sites in Egypt
Nuclear Authorities in Egypt

Atomic Energy authority (EAEA)

Minister of electricity

Nuclear Research Center

Rad. Research & Tech. Center

Hot Lab. Center

Nuclear Material Authority, 1977

Nuclear Power Plants Authority, 1976

Prime Minister

Nuclear and Radiological Regulatory Authority (ENRRA)
Main Functions of NRRA:

1) Regulations & Guides
2) Review & Assessment
3) Authorization (Licensing)
4) Regulatory inspections
5) Enforcement actions
Major Application of Radioactive Materials

1- Nuclear Industry
   - 2 research reactors
   - 2 Gamma Irradiators
   - One Disposal Facility for Low Level RW

2- Medicine
   - Nuclear Medicine 100 hospitals
   - Radiotherapy 12 hospitals

3- Industry
   - NDT Radiography 30 companies
   - Well Logging 11 companies
   - Gauging 130 companies

4- Research
   - About 45 units in different institutions
Compliance Assurance for Safe Transport

In general, we apply the regulations for safe Transport of radioactive materials “IAEA safety requirements SSR-6 and other international rules.”
The Safe Transport of radioactive material through Suez Canal
Compliance Assurance for Safe Transport of RM Through SC

Suez Canal Regulations for Ships Carrying with Radioactive Materials include the following requirements;

➢ Radioactive goods is granted a permission to cross Suez canal on condition the following documents are presented;

1- Documents proving that vessels carrying radioactive materials has complied with conditions and prescriptions contained in the laws and rules in force in the exporting country and conditions and prescriptions of IMDG code or that of IAEA.

2- Packing certificate

3- Stowage certificate

4- Compensation warranty document covering all direct or
Indirect damage that may be caused by the presence of RM on board of the ship.

5-Declaration of ENRRA concerning the shipment with all information required by ENRRA. There are two kinds of declaration. Each concerns one of the two basic groups.

▪ Declaration I: Group 1 Radioactive
  It includes fissile materials such as enriched Uranium, Uranium$^{235}$ and Plutonium $^{239}$. which under certain conditions are capable of undergoing fission.

▪ Declaration J: Group 2 Radioactive
  It includes radioactive goods stated by IMDG code
Code as exemption such as Uranium ores and concentrate, natural uranium Thorium, -isotopes for medical, agriculture, scientific or industrial use.

➢ Packing and Labeling
  The goods must be packed and labeled in accordance to IMDG code or IAEA rules or to similar recognized national provisions.

➢ Stowage and Segregations
  The goods must be stowed and segregated in accordance to the IMDG code or to IAEA rules or similar recognized national provisions.
Vessels carrying exemption radioactive substances

Vessels carrying radioactive substances which are stated by IMDG code as exemption are deemed to be ordinary vessels provided they satisfy conditions in regulations above.
The warrantee document

- For Group A; (1 radioactive)
  - The document is: insurance policy
  - Issued by: an approved protection and insurance organization;
  - Cover: all kinds of damage due to the passage of the ship in Suez Canal.

- For Groups B (2 radioactive)
  - The document is: a certificate
  - Issued by: an official recognized authority in charge of the protection and compensation of the ship owners against damage

- The compensation warrantee document of whatever kind (insurance / certificate) must explicitly state that the victims shall receive compensation.
Organization of the transit

- Vessels carrying group 1 radioactive to be put at the end of the convoy and during transit an interval of 20 minutes between these vessels and the preceding vessel.
- Vessels carrying radioactive substances group 2 radioactive have no special regulations with their position in the convoys.
The ENRRA Experts Inspection

– On the arrival of the ship carrying radioactive material, the experts of the ENRRA go on board of the ship to inspect and to examine the radioactive material load.
Compliance Assurance of Safe Transport of RM by Roads:

Procedure applied in this case as follows;

➢ The user fill an application form and present it to ENRRA that investigate it.
➢ This application form contains information on
  A- Type of RM, activity, type of packing, dose rate at the surface and one meter from the surface, validity certificate of the package, place of loading and destination place.
  B- Information on vehicle includes
    The number of the vehicle, name of the deriver, mobile of the deriver, number of his driving license.
  C- the name of the radiation protection expert accompanied the vehicle.
Notifying the Civil Defense
After ENRRA approves the application, it informs the Civil defense to secure the load from the place of Loading to the final destination.
1- Development national transport safety regulations

2- Fabrication of packing's especially after the production of radio-isotopes in commercial scale is increased.
Thank you