The Egyptian Framework in Respect to Nuclear and Radiological Emergency Preparedness and Response (NREPR)

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Supervisor of Central Chamber for N&R Emergencies
ENRRA/Egypt
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- Efforts of ENRRA in the field of Public Communications and Stakeholders Sharing
<table>
<thead>
<tr>
<th>Area</th>
<th>1000000 square kilometers.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital</td>
<td>Cairo</td>
</tr>
<tr>
<td>Population</td>
<td>90 millions</td>
</tr>
<tr>
<td>Official Language</td>
<td>Arabic</td>
</tr>
<tr>
<td>Climate</td>
<td>Winter 20 °C / 10 °C</td>
</tr>
<tr>
<td></td>
<td>Summer 35 °C / 22 °C</td>
</tr>
</tbody>
</table>
## EVOLUTION OF THE EGYPTIAN REGULATORY FRAMEWORK

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
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</thead>
<tbody>
<tr>
<td>1982</td>
<td>Establishment of a competent regulatory body in Egypt (Nuclear Regulatory and Safety Committee).</td>
</tr>
<tr>
<td>1991</td>
<td>Presidential Decree no. 47, the National Center for Nuclear Safety and Radiation Control (NCNSRC) was established as a part of the Egyptian Atomic Energy Authority (EAEA).</td>
</tr>
<tr>
<td>2007</td>
<td>Strategic decision to build NPP for electricity generation.</td>
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<tr>
<td>2010</td>
<td>Issuance of the Law no. 7/2010, an independent “Nuclear and Radiological Regulatory Authority (ENRRA)” was established.</td>
</tr>
<tr>
<td>2011</td>
<td>Issuance of the Executive Regulation of the Law (October 2011).</td>
</tr>
<tr>
<td>2012</td>
<td>Full independence of ENRRA, assignment of Chairman, Vice-Chairman and the ENRRA’s board, (5th March 2012).</td>
</tr>
<tr>
<td>2014</td>
<td>Activation of ENRRA’s Organizational Structure (12th May 2014).</td>
</tr>
</tbody>
</table>
Chapter 2: Nuclear and Radiological Regulatory Authority

- Establishment of Independent RB (ENRRA)
- Roles and Responsibilities (EPR, Public awareness)

Chapter 4: “Nuclear and Radiological Emergencies”

- Establishment of Supreme Committee for N&R Emergencies
- Roles and Responsibilities of SCNRE&ENRRA at the National Level
Exercising regulatory and control duties in respect to EPR

Heightening public awareness of the regulatory process of the nuclear and radiological activities,

developing the means and procedures of the public participation,

adopting measures necessary for the spread of nuclear security and safety cultures between public and responding to their inquiries about N&R status in the area of their residence, unless this information is secretive,

Issuing quarterly reports to the public about the radiation situation at national level in newspapers and the media
Main Duties of SCNRE According to Law No. 7/2010

- Draw up a comprehensive national plan for the preparedness and Response to N&R emergencies with clear role and responsibilities of national organizations,

- Submit a report to the President of the Republic, Prime Minister and heads of Peoples' Assembly Council in cases of nuclear or radiation accidents,

- Organize the evacuation of people if necessary,

- Inform the media and public of the accident, its repercussions and adopted radiation protection procedures.
## ENRRA Efforts in the area of public Communication

<table>
<thead>
<tr>
<th>Plans</th>
<th>Meeting</th>
<th>Workshops</th>
<th>Scenarios</th>
</tr>
</thead>
<tbody>
<tr>
<td>National plan for Public Communication 2015</td>
<td>- Governors, - Organizations, - Media</td>
<td>- National level * Basic * Specific</td>
<td>- Communication exercise - Transport Scenario</td>
</tr>
</tbody>
</table>
ENRRA Efforts in the area of public Communication

1- Meeting

ENRRA Chairman and CCNRE Supervisor with governors of (Sharkia, Kaliubia)
ENRRA Efforts in the area of public Communication
1- Meeting

The ENRRA’s Chairman, Vice –Chairman and the Supervisor of nuclear installation safety sector visited EL–Dabaa Site on 28 Nov. 2015 (Conducted a meeting with the local public).
The ENRRA’s Chairman, Vice –Chairman participated in a seminar at Al–Ahram Center for Political & Strategic Studies (Dec. 2015) to introduce the ENRRA’s role and responsibilities towards the nuclear project.
2. Workshops

Workshop on Medical Preparedness and Response in Case of N&R Emergencies, ENRRA 22–24/11/2014
2. Workshops

Workshop on Emergency Preparedness and Response
ENRRA 20–24/12/2015
2. Workshops

Workshop on nuclear safety and security
Police Academy
3. Scenarios

Scenario
Transport accident including radioactive materials
4. Planning

National Plan for Public Communication in case of N&R Emergencies

- 11 Organizations were shared in preparing this plan under the coordination of ENRRA (national coordinator—CCNRE)
- 24 regular meeting in the period from 11/2014–10/2015
National Plan for Public Communication in case of N&R Emergencies

Main Contents

✓ Role and responsibilities
✓ Organization of public communication in case of N&R emergencies
✓ Public communication (types of public, article media, timetable of communication)
✓ Management and exchange of information
✓ Preparation of messages addressed to the public
✓ Activating the role of media
✓ Training and exercises
✓ Improvement of the plan
FUTURE WORK

- Identification of the official spoke person in case of emergency
- Establishing the infrastructure related to media communication
- Setting an action plan for activating the communication plan including (selecting the media team, technical team, training program,...)
- Study the introducing of INES in the national communication plan
Thanks for your attention
National arrangements for public communication in an emergency

IAEA Competent Authorities Meeting 2016

Mr Scott Muston
Assistant Director, Emergency Response
ARPANSA
SCOPE

Jurisdictional Framework

Crisis Coordination Arrangements

Communication Mechanisms

Australian Hazard Categories

Radiation Protection Information
JURISDICTIONAL FRAMEWORK

AUSTRALIAN GOVERNMENT

• PRIMARY RESPONSIBILITY
  • Managing a crisis that is not the responsibility of a jurisdiction
• SUPPORTING ROLE
  • On request providing support to the jurisdiction where the response overwhelms resources
• JOINT MANAGEMENT
  • Working together with the affected jurisdiction to manage a crisis that may impact more than one jurisdiction, the broader community or an Australian Government area of responsibility.

JURISDICTION

• PRIMARY RESPONSIBILITY
  • Protection of life, property and the environment within the bounds of their jurisdiction.
  • Maintain legislation and emergency management arrangements
  • first responders in the event of an emergency
CRISIS COORDINATION ARRANGEMENTS
COMMUNICATION MECHANISMS

Principles
Coordinated | Authoritative | Consistent | Complete | Timely | Targeted | Verifiable
<table>
<thead>
<tr>
<th>Category</th>
<th>Hazard Types</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>None</td>
</tr>
</tbody>
</table>
| 2        | • ANSTO Research Reactor (20MW)  
           • Foreign Nuclear Powered Warships |
| 3        | • Radiopharmaceutical Manufacturing  
           • Industrial irradiation/sterilisation facilities  
           • Research Laboratories |
| 4        | • Cat 1, 2 & 3 security enhanced sources - Industrial radiography, Gauges and Well logging (Lost/stolen dangerous)  
           • Re-entry of nuclear powered satellite  
           • Transport |
| 5        | • Planning zones for visits by foreign nuclear powered warships  
           • Import of contaminated food or material |
MODELLING EMERGENCY SITUATIONS

Scenario Building
- Event information
- Defining a Source Term
- Ability to create release scenarios (e.g. Nuclear reactor accident, Nuclear power warship accident, RDD, radionuclide fire).

Modelling Pathways
- Identification and modelling of relevant pathways of exposure from external and internal sources with defined exposure scenarios
- e.g. Atmospheric dispersion modelling

Modelling Products
- Graphical display of:
  - time of arrival,
  - dose and dose rate,
  - surface contamination,
  - isolines for emergency management
- Common GIS outputs, animations and forecasts

Advice
- Protective actions
- Isolines for emergency management
- Plume direction and arrival times
- Health impacts assessments, including restrictions on food
COMMUNICATION OF RISK

• When providing advice to the public about the health impacts associated with any radiation exposure from the Fukushima Dai-ichi NPP accident, ARPANSA used the following terms:

  – **Negligible Risk (less than 1 mSv)** A 1 mSv annual dose is easily within the range of normal variation in background radiation doses in Australia.

  – **Minimal Risk (1 to 20 mSv)** 20 mSv is the annual dose limit for a radiation worker in Australia.
SUMMARY

• Use established, proven and trusted communication mechanisms
• Ensure information is consistent, factual and timely
• Reassure community
• Australian emergency communication compliant with the GSR Part 7
  – (Requirements 10 and 13)
THANK YOU

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Telephone: +61 3 9433 2211
Freecall 1800 022 333
General Fax: +61 3 9432 1835

Follow @ARPANSANews
National arrangements for communication with the public in an emergency in Poland

Krzysztof Dabrowski
Radiation Emergency Centre, National Atomic Energy Agency (PAA)

*Eighth Meeting of the Representatives of Competent Authorities identified under the Convention on Early Notification of a Nuclear Accident and the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency, 6-10.06.2016, Vienna, Austria*
Emergency preparedness and response
Legal basis


Act of Parliament of 29 November 2000 Atomic Law - Chapter 11 “Radiological emergency management”

Regulations of the Council of Ministries

| the emergency planning for radiological emergency | stations for the early detection of radioactive contamination and units which measure radioactive contamination | intervention measures | control the food and animal feeding stuff, following a radiological emergency | in advance informing the general public in the event of a radiological emergency |
Conventions and agreements

Convention on Early Notification of a Nuclear Accident

Convention on Assistance in the case of a Nuclear Accident or Radiological Emergency

Bilateral agreements on early notification of nuclear accidents and co-operation in the field of nuclear and radiation safety.

Agreements between the PAA President and major national public administration authorities
Over 3000 users of radioactive sources (medical, industrial, scientific)

National Radioactive Waste Repository in Różan (LILW)

Spent fuel storages

EWA research reactor (decommissioned)

MARIA research reactor (in operation)
RADIATION EMERGENCY – hazardous situation which requires urgent actions for the protection of workers or general public.
1. **country level (national scale)**
   - impact over larger territory than of a single province or transboundary impact

2. **regional level**
   - impact limited to the territory of a single administrative region (province / voivodship)

3. **entity / facility level (on-site)**
   - impact limited to the organizational entity
Responsibilities
(preparedness and response, action coordinators and public information)

- **facility level (on-site)**: LICENSEE
- **regional level**: REGIONAL GOVERNOR
  - in co-operation with regional sanitary inspector
- **country level**: MINISTER OF INTERIOR
  - in cooperation with President of PAA
National Contact Point

National Atomic Energy Agency (PAA)

Radiation Emergency Centre „CEZAR”

24h telephone and fax numbers:

Tel.: + 48 22 19430
     + 48 22 6210256
     + 48 783 920 151 (mobile)

Fax:  + 48 22 6959855
     + 48 22 6210263

E-mail: cezar@paa.gov.pl
MINISTRIES and other governmental bodies according to the National Radiation Emergency Plan

POLISH ARMED FORCES (COAS)

PAA RADIATION EMERGENCY CENTRE CEZAR

MONITORING DATA

LICENSEE

GOVERNMENT CENTRE FOR SECURITY

CRISIS MANAGEMENT CENTRE OF THE MINISTRY OF INTERIOR

NATIONAL CRISIS MANAGEMENT CENTRE

GOVERNMENTAL CRISIS MANAGEMENT TEAM*

MINISTRY OF INTERIOR

NATIONAL HEADQUARTERS OF FIRE SERVICE

NATIONAL HEADQUARTERS OF POLICE

NATIONAL HEADQUARTERS OF BORDER GUARDS

FIRE SERVICE REGIONAL UNITS

REGIONAL UNITS OF POLICE

REGIONAL UNITS OF BORDER GUARDS

* The PAA President is a member of the Governmental Crisis Management Team in case of crisis situation due to radiation emergency on national scale
Assessment (normal and emergency situation)

Radiation Monitoring System in Poland
- National Atomic Energy Agency
- Radiation Emergency Center CEZAR

Early Warning Stations for Radioactive Contamination:
- Basic Stations
- Subsidiary Stations

Measurement Units for Radioactive Contamination:
- Basic levels
- Specialist levels

Services of Operating Entities and Nuclear Regulations:
- Local Monitoring System

Decision Support Systems
- RODOS system
- ARGOS system

Data and information provided by:
- Regional governors and services
- National authorities, inspections
- International systems (USIE, ECURIE, EURDEP)
- Neighbouring countries – competent authorities

Meteorological data provided by IMGW
Exercises

National level
- Minister of Interior shall conduct periodic exercises to test the national emergency plan, at least once every three years

Regional level
- Periodic exercises for the review and updating of the emergency plan for radiological emergency, including the method for communication with the population, according to the established procedures, shall be held by the province governor (voivode) at least once every three years,

Facility level
- Periodic exercises involving the review and updating of the emergency plan for radiological emergency shall be held by the head of organizational entity at least once every two years.
Arrangements in public communication
Public information

**in advance**

Population, which in the event of radiation emergency could receive ionizing radiation dose exceeding the population dose limit, shall be periodically informed by the Agency’s President of the feasible health protection measures and of the measures which should be taken by the population in the event of radiation emergency (pre-emptive information).

**in case of emergency**

The population which may receive ionizing radiation dose exceeding the dose limit for the members of the public, shall be immediately informed of the emergency and the undertaken measures by Ministry of Interior or regional governor, and, if necessary, also of the appropriate health protection measures.
In case of emergency - Content

- data on the type of emergency,
- description and actual and anticipated emergency development,
- indication of population’s actions or modes of conduct designed to avoid the emergency consequences,
- warning related to the possibility of implementation of intervention measures
- if time allows – basic data related to the ionizing radiation and to the consequences of exposure
- appeal to listen to the radio and TV broadcasts
- directions concerning:
  - conduct of people responsible for kindergartens, schools, hospitals and other entities occupied by larger groups of people
  - conduct of professional groups, which may play a helpful role in the event of radiation threat,
Public communication – priorities

- ASAP
- Transparent and consistent
- Plain language
- Coordination
- Other languages as needed
Coordination of public communication - National level

Ministry of Interior

Informing the population
Coordination of public communication

National Atomic Energy Agency (PAA)
- drafting information for public
- expert assistance,
- assistance in public communication

Government Centre for Security
- assistance in public communication
- coordination of information exchange with other stakeholders
- within crisis management system
Communication with public

- press conferences
- websites
- TV
- radio
- emergency hotlines
- National Warning System (information about threat sent via sms)
- social media (partly)
Thank you for your attention😊
UAE arrangements for communication with the public in an Emergency

8th Meeting of Representatives of the Competent Authorities, Vienna, Austria, 6 – 10 June 2016

Fahed Al Bloushi
Manager, Emergency Preparedness and Response
Outline

- IAEA GSR part 7
- UAE White paper
- Regulatory Framework
- EPREV Mission relevant recommendations
- Operator Responsibilities
- Offsite Response Organisations (ORO’s)
- Conclusion
IAEA GSR part 7 – 1/2

General Requirements

Requirements 2: Roles and responsibilities in emergency preparedness and Response

The government shall make provisions to ensure that roles and responsibilities for preparedness and response for a nuclear or radiological emergency are clearly specified and clearly assigned.

4.10. The government shall establish a national coordinating mechanism to be functional at the preparedness stage, consistent with its emergency management system, with the following functions:

I. To coordinate effective communication with the public in preparedness for a nuclear or radiological emergency.
IAEA GSR part 7 – 2/2

Functional Requirements

Requirement 10: Providing instructions, warnings and relevant information to the public for emergency preparedness and response

The government shall ensure that arrangements are in place to provide the public who are affected or are potentially affected by a nuclear or radiological emergency with information that is necessary for their protection, to warn them promptly and to instruct them on actions to be taken.

Requirement 13: Communicating with the public throughout a nuclear or radiological emergency

The government shall ensure that arrangements are in place for communication with the public throughout a nuclear or radiological emergency.

- Complete operational transparency
- Highest standards of non-proliferation
- Highest standards of safety & security
- Close cooperation with IAEA, conform to Standards
- Policy of the United Arab Emirates on the Evaluation and Potential Development of Peaceful Nuclear Energy
- Long-term sustainability
- Partnership with governments & firms of responsible nations
A federal law by decree no. 6 of 2009 concerning the peaceful uses of nuclear energy

(Physical Protection- Emergency Planning- Emergency Preparedness and Response)

**Article 49**

The competent authorities and licensees shall establish measures for Emergency Preparedness and Emergency Response.

**Article 50**

The preparation, Maintenance and co-ordination of the off-site Emergency Plan shall be organized by the competent authorities and Licensees in order to provide civil protection and protection of the public against disasters, accidents and catastrophes.
Article 54

In case of an Accident, Licensees shall be obligated to:

a. Notify the Authority immediately;
b. Warn the population and municipalities within the Emergency Zones and other competent authorities immediately;
c. Take Emergency Action to mitigate and remedy the consequences of the Accident;
d. Control and regulate the exposure of the individuals engaged in Accident mitigation and elimination;
e. Ensure continuous monitoring of radioactive releases into the environment; and;
f. Perform any other obligations as may be established in the Emergency Plans, this Law by Decree, the implementing regulations and the applicable regulations.

Article 55

The terms and procedures for preparation of Emergency Plans, the responsibilities and duties for implementation, the measures for mitigation and remediation of the consequences. The arrangements for warning of the public and the measures for testing Emergency Preparedness shall be established by the applicable regulations of this Law by Decree.
REG 12, Regulation for Emergency Preparedness for Nuclear Facilities

Article 11

The Licensee shall be capable of mitigative action to:

- Regain control of the cause of the Emergency;
- Minimise to the extent possible any increased radiation levels or releases of Radioactive Material resulting from the Emergency; and
- Notify the Authority and offsite authorities.

Article 15

The Licensee shall provide the facilities, equipment and locations necessary to respond to an Emergency, which include:

- A system for notification of Emergencies to the Authority and to the competent authorities; ..etc..
REG 15, Requirements for Off-site Emergency Plans for Nuclear Facilities

Article 3

- The Competent Authorities, in coordination with the Licensee, shall establish the Off-site Emergency Plan, which shall be exercised and reviewed prior to the receipt of Nuclear Fuel at a Nuclear Facility.

- In addition to the Licensee, Competent Authorities with responsibilities in the following (or relevant) areas shall be involved in the development of the Off-site Emergency Plan:
  - Civil protection, including command and control, alerting and notification, and communications;
  - Policing;
  - Fire-fighting and rescue;
  - National security;
  - Emergency medical response;
  - Local government;

- The Authority shall cooperate with the Competent Authorities, advise them and provide information on Radiation Protection matters concerning Emergency planning and Emergency Preparedness.
The Off-site Emergency Plan shall establish the arrangements to provide useful, timely, truthful, appropriate and consistent information throughout an Emergency.

The Off-site Emergency Plan shall include arrangements for:

- Coordinating the release of information during an Emergency, including identifying the Competent Authority to be the source of official information;
- Providing the public with prompt information on risks and any protective actions required or that may be required, including information to the public outside the Emergency Zones;
- Responding to any misleading, inaccurate or confusing information appearing in the media; and
- Ongoing education of the public in the vicinity of the Nuclear Facility about Protective Actions.
Providing instructions, warnings and relevant information to the public

• The Incident Commander is responsible for providing instructions to the public in the UPZ. Notification of the (mainly transient) population in the UPZ is the police with the support of the Western Region municipality, using mobile phone, SMS, radio messages on the truckers’ frequency and loud hailers where required. Work is underway to add notification through the national mosque system. Notification of the public outside the UPZ is not envisaged in the offsite plan.

Recommendation: FANR, ENEC and MOI should review the requirements for emergency planning zones to clarify the PAZ size and delimitation and to include the concepts of EPD and ICPD consistent with IAEA safety standards.
Recommendation:

NCEMA should consider ensuring that all plans and all stakeholders provide consistent information about the national communication strategy and the role of the public information centers during a nuclear emergency.
Operator responsibilities

Upon deceleration emergency at Barakah NPP

Notify (15 Min), Notification point 24/7, EOC, FANR & NOC

Initial notifications are made when one of the four emergency classifications is declared at Barakah NPP.

Follow-up Notification are made every (60) minutes when there is a significant change in plant conditions that does not cause an initial notification to be required.
A. Public Education Program.
This program is implemented in preparedness phase by ENEC and other competent stakeholders to inform and educate the public inside and outside UPZ on the several subjects.
Offsite Response Organizations (ORO’s) 2/4

- Media and public communication during emergency

- Offsite ORO Public Information officer at EOC prepares a draft
- onsite ERO Public Information officer in EOF prepares a draft
- NOC Media Cell in Abu Dhabi

- The Media Cell drafts press news and approve the same at the strategic level
- The official spokesperson who may address the media shall be appointed by NCEMA and supported by MOI, ENEC, NMC and FANR
Alerting Methods to the public in the UPZ

- Route Alerting (Vehicles with external speaker systems):
- Loudspeaker System in Mosques
- Mass Dialing.
- Electronic signs on E-11 (highway) to guide the people to take the alternative road and not to enter the affected areas
Public Alerting and Warning Instructions (Alerting Messages), upon GE deceleration

Instructions of the Incident Commander, the Public Alerting Team will broadcast alerting messages and instructions to be implemented to the residents inside and outside UPZ and transient public in the main road by utilizing the methods below by security media of ADP.
Conclusion

- Coordination between the Offsite plan and Onsite should be consistent and harmonised to deliver and maintain communication with the public during emergency preparedness and response phases.

- UAE EP&R arrangements, Building a culture of continuous improvement among all stakeholders.
 شكراً

Thank you