Identifying, Notifying and Activating

IAEA-KINS Workshop on the Emergency Preparedness and Response to Nuclear and Radiological Emergencies

19 - 23 June 2023, Daejeon, Republic of Korea

Introduction

- Requirement 7: "*The government shall ensure that arrangements are in place for the prompt identification and notification of a nuclear or radiological emergency and for the activation of an emergency response.*"

Identifying, Notifying and Activating

- For facilities in emergency preparedness category I through III (**EPC I, II & III**)
  - Ensure operators promptly determine appropriate emergency class or level of response
  - Initiate on-site actions
  - Notify and provide updated information to off-site notification point
  - Promptly notify all appropriate off-site response organizations
  - Which will initiate pre-planned and coordinated responses appropriate to emergency class

Identifying, Notifying and Activating (cont.)

- For activities in emergency preparedness category IV (**EPC IV**)
    - Ensure first responders are able to identify and activate radiation emergency plans
    - Ensure medical doctors are trained for identifying radiation symptoms
    - Notify and activate radiation emergency plans in case of detecting radioactive material in scrap metal
    - Indicators of potential emergencies are well-known for response organizations

Identifying, Notifying and Activating (cont.)

- **Initiate** appropriate emergency response actions upon receipt of notification by another State or IAEA of actual or potential transnational emergency

- In **transnational emergency** – notifying State informs directly or through IAEA those States that may be affected

In Practice

- Off-site notification protocol and messages

- Means to activate critical staff 24 hrs/7 days

- Means to notify other countries

- First responders aware of indicators of presence of radiation or radioactive material

- Medical doctors aware of symptoms that high dose of ionizing radiation can cause

In Practice (cont.)

- Anyone who could "discover" an abnormal event should have access to adequate mechanism to notify appropriate organization

- Emergency classification system must be in place

- Procedures relate classification to actions

Emergency Classification System

- Takes into account all postulated nuclear and radiological emergencies

- Emergency action levels (EALs) considered

- ECS established with aim of:
  - Initiating prompt response
  - Implementing emergency operations
  - Initiating appropriate level of co-ordinated response on-site and off-site
  - Defining responsibilities and initial response actions for each emergency category

- **The level of activation is based on the emergency class!**

Emergency Classification System (cont.)

General emergency
- An emergency that warrants taking precautionary urgent protective actions, urgent protective actions, and early protective actions and other response actions on the site and off the site

Site area emergency
- An emergency that warrants taking protective actions and other response actions on the site and in the vicinity of the site

Facility emergency
- An emergency that warrants taking protective actions and other response actions at the facility and on the site but does not warrant taking protective actions off the site

Alert
- An event that warrants taking actions to assess and to mitigate the potential consequences at the facility

Other nuclear or radiological emergency
- For emergency in category IV that warrants taking protective actions and other response actions at any location

Emergency Classification System (cont.)

- Frequently asked question: *Should an EPC III and/or IV country adopt the full emergency classification system?*
  - 'General emergency' and 'Site emergency' is not likely, so it is not strictly required
  - However, situation may change, (e.g. EPC I facility being built beyond the national border, nationals getting involved in 'General emergency' abroad, public communication needed regarding emergencies worldwide etc.)
  - International emergency communication (e.g. USIE) can use these terms of 'higher' classes of emergencies
- This may justify using the full emergency classification systems even in category III and IV countries

Off-site Notification

- Requirement for prompt notification - 30 minutes for fixed facilities

- Contact points well defined and available - 24hrs/7days

- Notification message pre-defined
    - Information may be limited
    - Be realistic in amount of information needed
    - Too much information may delay notification

- Follow up information defined

Image courtesy IAEA

Notifying Other States

- Nearby States:
  - Prompt notification directly from facility or promptly through approved channels (bilateral agreements)
  - Contact point identified
  - Protocol identified, including format
  - Language issues taken into account
  - Direct notification between local authorities

- Distant States
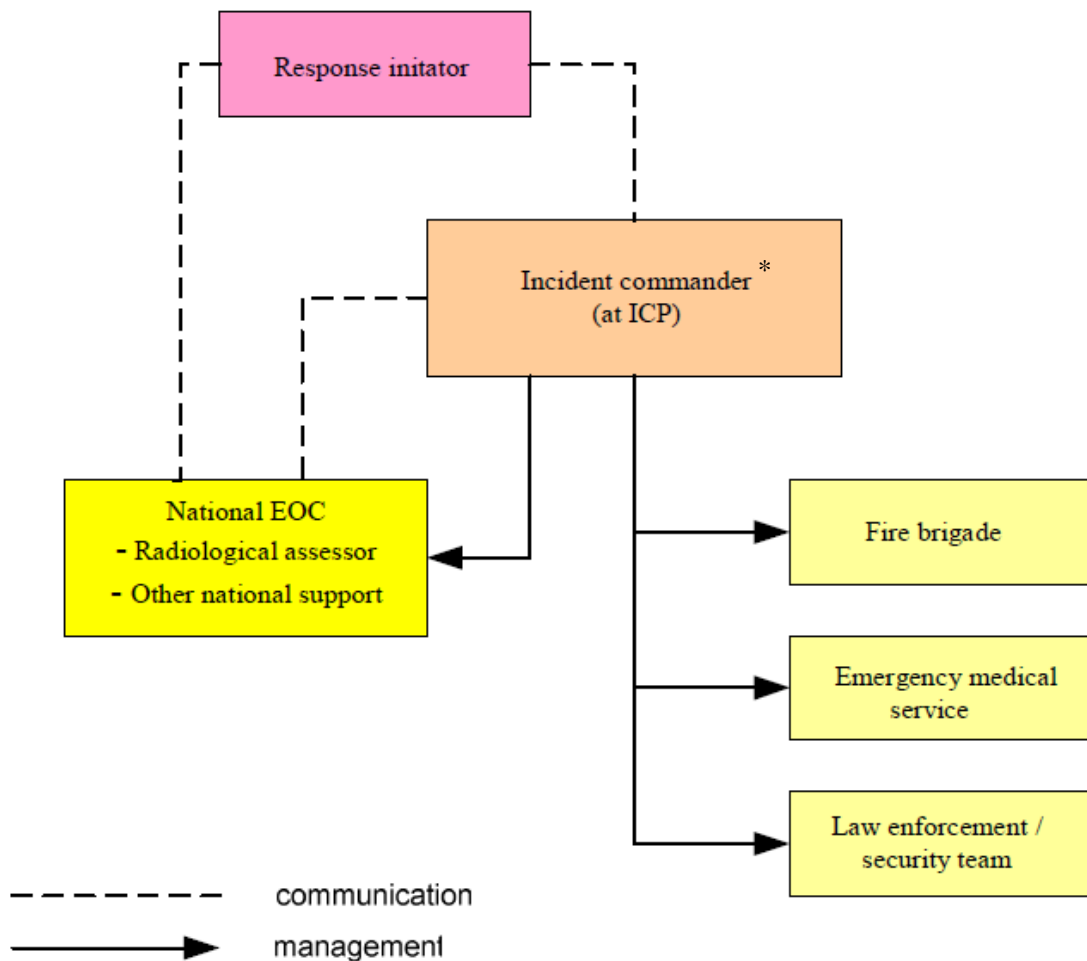 - IAEA and bilateral agreements

Activate Key Staff 24/7

- Designate who activates whom:
  - Who is considered key staff?
- Communications:
  - Telephone, cellular, others
  - List of numbers is up to date
- Duty system among staff
- Co-ordination of absences
- Notification system should have built-in redundancy
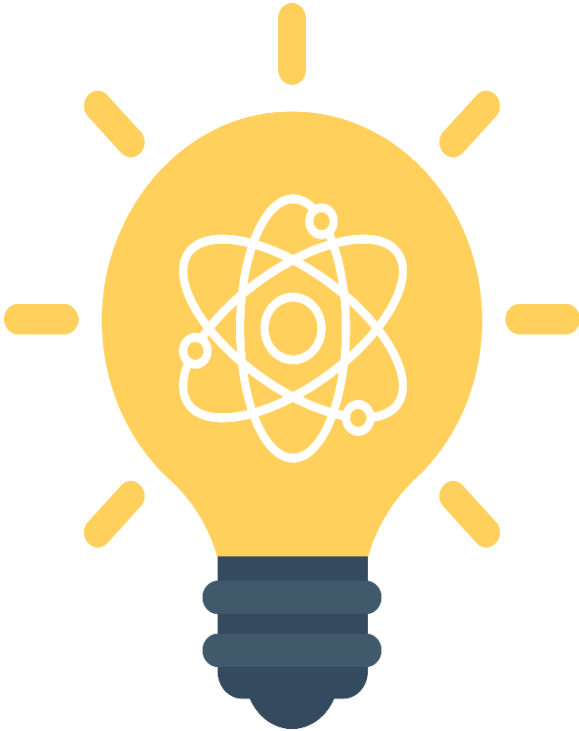- Regular testing of equipment and procedure(s)
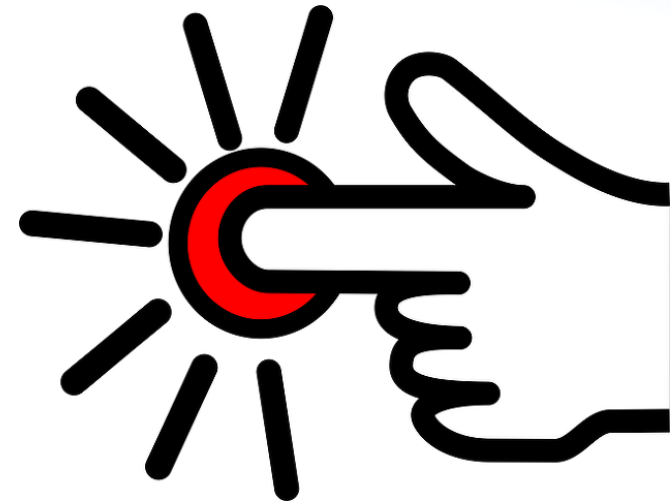
Activation Process

Image courtesy IAEA

Key Points

- Operators are responsible for:
  - Identify the emergency
  - Promptly classify the emergency
  - Notify and activate on-site response, and
  - Notify off-site authorities
- First responders are trained to identify observables at the scene
- Facilities and locations where a dangerous source might be found
  - Are aware of those indicators and
  - Are able to notify

Where to Get More Information

- IAEA TECDOC-1162 (2000)
- IAEA EPR-First Responders (2006)
- IAEA GSR Part 7 (2015)
- IAEA GS-G-2.1 (2007)

iec.iaea.org
iec-information@iaea.org
@IAEAIEC