

PNRA's Nuclear Security Action Plan (NSAP)

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Inception of PNRA

- **1984** **Promulgation of Pakistan Nuclear Safety & Radiation Protection Ordinance (PNSRP)**
- **1985** **Establishment of Directorate of Nuclear Safety & Radiation Protection (DNSRP)**
- **1990** **Promulgation of PNSRP Regulations**
- **1994** **Creation of Pakistan Nuclear Regulatory Board (PNRB) (partial compliance of Nuclear Safety Convention)**
- **2001** **Establishment of Pakistan Nuclear Regulatory Authority (PNRA) with the Promulgation of PNRA Ordinance (full compliance with Nuclear Safety Convention)**



The Need for Action Plan

- **There are increased concerns regarding unconventional threats from radioactive sources and materials.**
- **The borders entry/exit points of the country were not covered with radiation detection equipment.**
- **District management authorities, first responders, law enforcing agencies, front line officers etc., are barely aware how to respond to a radiological emergency.**
- **The entry/exit of Orphan Radioactive Sources through imported metal scrap is uncertain.**



Nuclear Security Action Plan (NSAP)

- **Being implemented by PNRA since 2006**
- **Focus Areas of NSAP:**
 - **Management of High Activity Radioactive Sources, evaluation of vulnerable facilities and supporting the efforts to upgrade security measures**
 - **Establishment of Nuclear Security Training Centre**
 - **Nuclear Security Emergency Co-ordination Centre (NuSECC)**
 - **Locating and Securing Orphan Radioactive Sources**
 - **Provision of radiation detection equipment at certain entry/exit points**



Area 1- Management of Radioactive Sources

Strategy:

- Tracking the sources from Cradle to Grave
- Licensing, inspections and periodic physical verifications
- Establishment of three (03) Inspectorates in addition to already existing Regional Directorates (03)
- The increased frequency of inspections based on the risk level.
- A follow up mechanism to ensure that the inspections findings are implemented promptly.
- A training-cum-awareness program for stakeholders

Objective: Assessment of security levels at the licensed radiation facilities, identification of weaknesses, propagation of the security culture, up-gradation of the security efforts and strengthening of PNRA effectiveness and vigilance.



Area 2- Nuclear Safety/Security Training Center

- Fully equipped training centre for National/International training courses, workshops, seminars, tutorials, Tabletop exercises on following issues:
 - Nuclear Security,
 - Illicit trafficking/response to unauthorized acts,
 - Radiation detection equipment,
 - Physical protection
 - Emergency response
- For demonstration and hands on training, Radiation Detection Equipment and Physical Protection Labs

Outcome: A sustainable system for training of PNRA staff and other national organizations. More than 600 persons of national organizations have been trained so far through 27 training courses



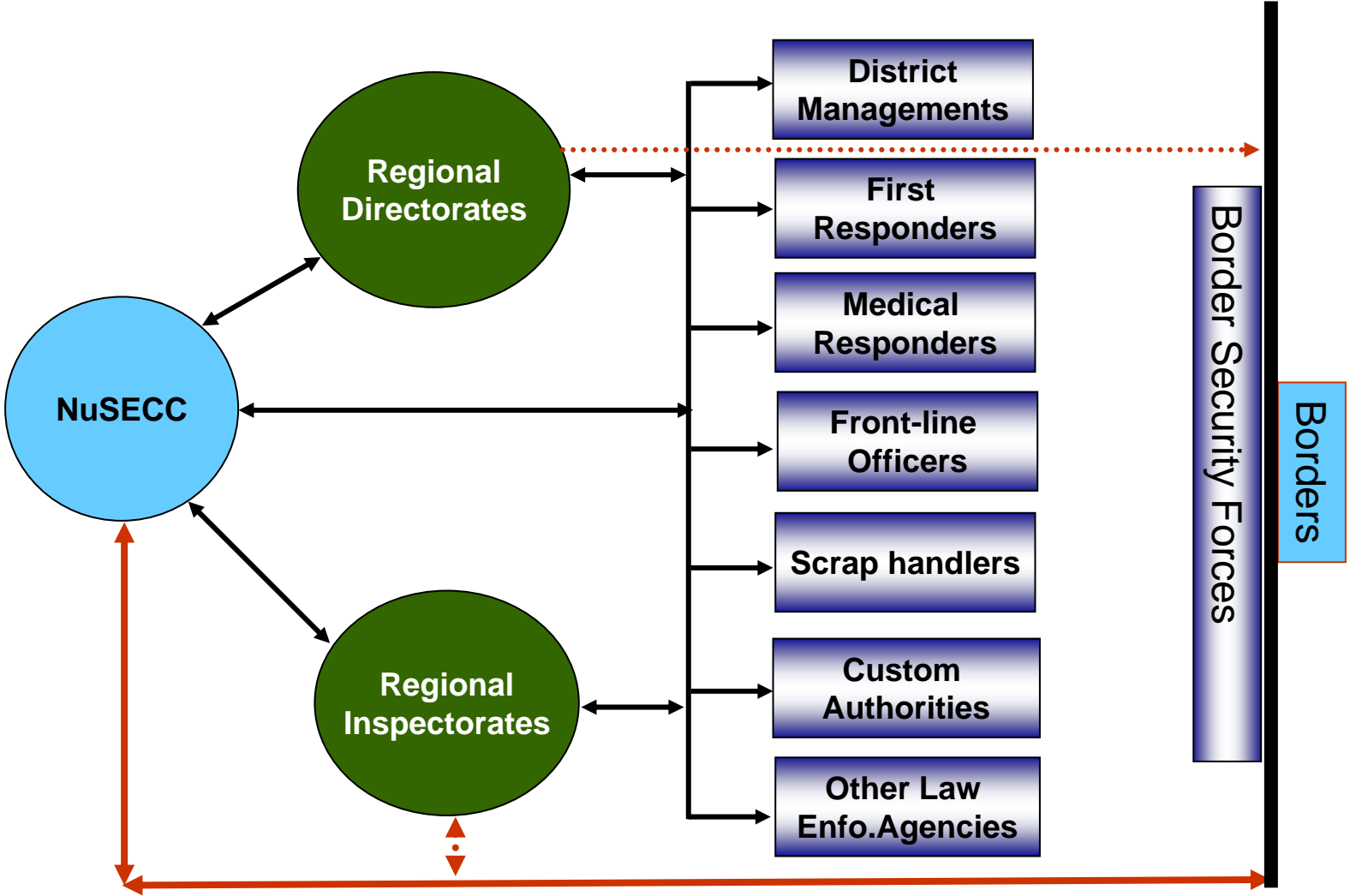
Area 3- Nuclear Security Emergency Coordination Center (NuSECC)

- **Focal point for the coordination with the first responders, front line officers, law enforcing agencies, local governments and PNRA Regional Offices.**
- **Network of six emergency response mobile labs.**
- **Response team (s) will be able to reach for expert opinion within 4 to 6 hours in the major cities of the country.**
- **Round the clock manning through:**

Toll Free Number: 080077766

Outcome: A capability to assess, control, respond and co-ordinate in case of an emergency pertaining to nuclear security.

NuSECC





Area 4- Locating and Securing Orphan Sources

- **PNRA strategy involves:**
 - **Launching a public campaign through electronic and print media seeking information on orphan sources.**
 - **Locating sources through non-physical and physical searches**
 - **Recovering and securing the sources**
 - **Disposing these at disposal facilities**
- **PNRA has regained control over many orphan radioactive sources**
- **The incidents have been reported to IAEA through ITDB**

Outcome: Establishing or restoring regulatory control over orphan sources, disposing and putting these out of reach of perpetrators and saboteurs. Provision of clean metal and environment to the public.



Area 5- Provision of Detection Equipment at Entry/Exit Points

- **Provision of Radiation Detection Equipment at strategic points to monitor the ingress and egress of radioactive material.**
- **The law enforcing and local government departments will be equipped with radiation detection equipment.**
- **An MoU has been signed with FBR to equip and train custom people to combat illicit trafficking.**

Outcome: Better control of illicit trafficking of radioactive and nuclear material and prompt response to radiological emergency



Implementation of MoU Between PNRA and FBR

- **Following Custom station have been equipped with handheld radiation detection equipment (personal radiation detectors, radionuclide identification devices, teleprobe survey meters):**
 - **Sost (Pak-China Border)**
 - **Torkham (Pak-Afghanistan Border)**
 - **Chamman (Pak-Afghanistan Border)**
 - **Taftan (Pak-Iran Border)**
 - **Gwadar Sea Port**
- **About 90 officials of Pakistan Customs have been trained on the use of radiation detection equipment, basic radiation protection, recognition of radiation signatures, response to alarms and illicit trafficking.**



Physical Protection of Nuclear Material and Facilities

- **PNRA is to ensure that physical protection measures around nuclear facilities and material are adequate:**
- **Legal Basis:**
 - PNRA Ordinance 2001
 - PNSRP-Regulations 1990
- **International Commitments:**
 - **Convention on Physical Protection of Nuclear Material (CPPNM)**
 - **IAEA GC(45)/2001 Resolution on Physical Protection**
 - **U.N. Resolution 1540(2004) Article 3-(b)**
 - **INFCIRC/225/Rev-4**



Physical Protection of Nuclear Materials and Facilities

- **How PNRA performs:**
 - **Set Regulatory Requirements and prepare Regulatory Guides**
 - **Obtain Physical Protection Plans from Nuclear Power Plants (NPPs) and Research Reactors**
 - **Assess and Evaluate Physical Protection Plans and existing setups at NPPs and Research Reactors using international standards**
 - **Provide guidance to licensee for Strengthening of Physical Protection measures and self assessment**
 - **Inspection of facilities using check list based on IAEA document INFCIRC/225**
 - **Facilities are licensed only when they comply with the physical protection requirements of the authority.**



Conclusion

What we will achieve ?

- **Protecting the nation**
- **Provision of clean metal to the nation**
- **Readiness to meet the challenges**
- **Strengthening the confidence of the nation on national institutes**
- **Compliance to international obligations**