



# **PREPAREDNESS, READINESS AND INTEROPERABILITY OF CONTINGENCY FORCES TO COUNTER AN INCIDENT OF NUCLEAR SECURITY**

Cesar Romao  
System for the Protection of the  
Brazilian Nuclear Program



# Physical Protection System



## Process





# Amendment to the CPPNM



## Fundamental Principles

**Principle “K”: Contingency Plans.** The employment of a security force should be based on a contingency planning, which should be the goal of the preparedness and readiness processes.

**Principle “G”: Threat.** A Physical Protection System should be able to effectively confront a threat assessment or a Design Basis Threat (DBT).



## OPERATOR CONTINGENCY PLAN



- **Concept of Operations to timely interrupt a malicious act.**
- **Important part of a facility's ability to successfully resolve an incident of nuclear security.**
- **Integration between the contingency planning and the emergency planning.**
- **State and operator planning integration in separate plans.**
- **The State Plan should complement the operator's Plan.**



# STATE CONTINGENCY PLAN



## - Purpose of a State Contingency Plan:

- defeat a threat with capability beyond the Design Basis Threat or a threat assessment; and
- When the level of uncertainty is high, only the State can assure a minimal control.





## STATE CONTINGENCY PLAN

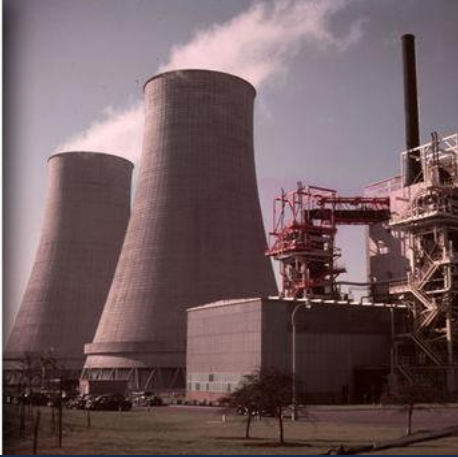


### - Interagency operation:

- operational command
- centralized planning X decentralized execution
- general, flexible and proactive
- effective notification system and command structure
- deliberate planning (prepared in a non crisis situation) based on a scenario
- triggered without delay
- scaled response
- necessary resources



# Fundamentals of building capabilities



- **Design Basis Threat**
  - Induces the necessary capabilities of a Physical Protection System



- **Capability-Based Planning to build nuclear security forces**
  - what operative capabilities should be necessary to be developed?



## Training Programs



- standartization
- current nuclear security scenario evaluation
- training objectives
- training cycle
- guidance for drills, tabletops exercises, full scale exercises
- recommendations
- available budget







## Exercises and drills fundamentals



- Purpose of exercises: validate plans
- Scenario with two parties representation
- Integration between safety X security
- Force on Force exercises
- Assignment of umpires
- Best practices and lesson learned
- After Action Reviews
- Evaluation System





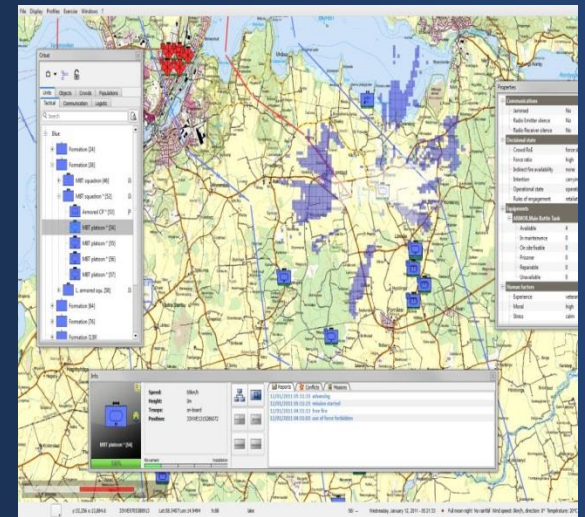
# SIMULATION



**Virtual**



**Live**



**Constructive**



## READINESS



- **Notification of the operator response force**
  - **Depends on the effectiveness of detection and delay**
- **Notification of a State response force**
  - **Threat beyond DBT**
  - **It may be considered a terrorist attack**
  - **Depends on reliable and robust Intelligence to increase the Readiness and promptly intervene**
  - **Without enough Intelligence, State response force may not be immediately available**



## Deployment of response forces



- **In-site response force: already deployed**
  - **Response after intrusion detection and assessment**
- **Off-site (local police): On request**
  - **may depend on availability**
- **Off-site: (National Plan): On request**
  - **demands high resources of the State**



## READINESS



### - Operational Command

- ideal: formal command structure
- no command structure: cooperation is key
- unity of effort

### - Interoperability

- facilitates reinforcement
- speeds up joint operations



### - Simplicity: clear, uncomplicated plans and concise orders



# SUMMARY



**Contingency  
Planning  
X  
Preparedness  
X  
Readiness  
X  
Interoperability**

**Cesar Romao  
cesar.romao@presidencia.gov.br**