# Response to Illicit Trafficking of Radioactive Materials

Office of Nuclear Security

Namanga, Kenya

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International Atomic Energy Agency

# Definition of Illicit Trafficking

- IAEA Manual on Response: *"Illicit trafficking is the receipt, possession, use, transfer or disposal of radioactive material without authorization"*
- Legal Action will eventually distinguish between *„criminal intent"* and *„inadvertant movement"* of radioactive materials
- First Response measures will be the same

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# Response Paths

Two Main Response Paths:

- Reactive Response
  - Detection or Random discovery
  - Random disclosure
- Proactive Response
  - Intelligence based reports

# Reactive Response

## Requirements for Reactive Response:

- Real alarm of a border monitor, no false alarm or an innocent alarm
- Notification about an incident involving, or suspected of involving, radioactive materials
- Discrepancy between a customs declaration form and the corresponding actual shipment

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# Proactive Response

## Requirements for Proactive Response:

- Receipt of intelligence information suggesting the illicit trafficking of radioactive materials
- Notification about the discovery of non-compliance with transport regulations
- Discrepancies found in an inventory of radioactive materials

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# Response Objectives

- To minimize any potential health hazards;
- To bring the radioactive materials under appropriate control;
- To investigate, gather evidence and prosecute any offenders.

# Scale of Response

The scale of Response needs to be geared to the severity of the situation

Three scales of response:

- Operational ➔ Response by first Responder
- Tactical ➔ Outside Expert Assistance
- Strategic ➔ Activation of a local / national Emergency Response Plan

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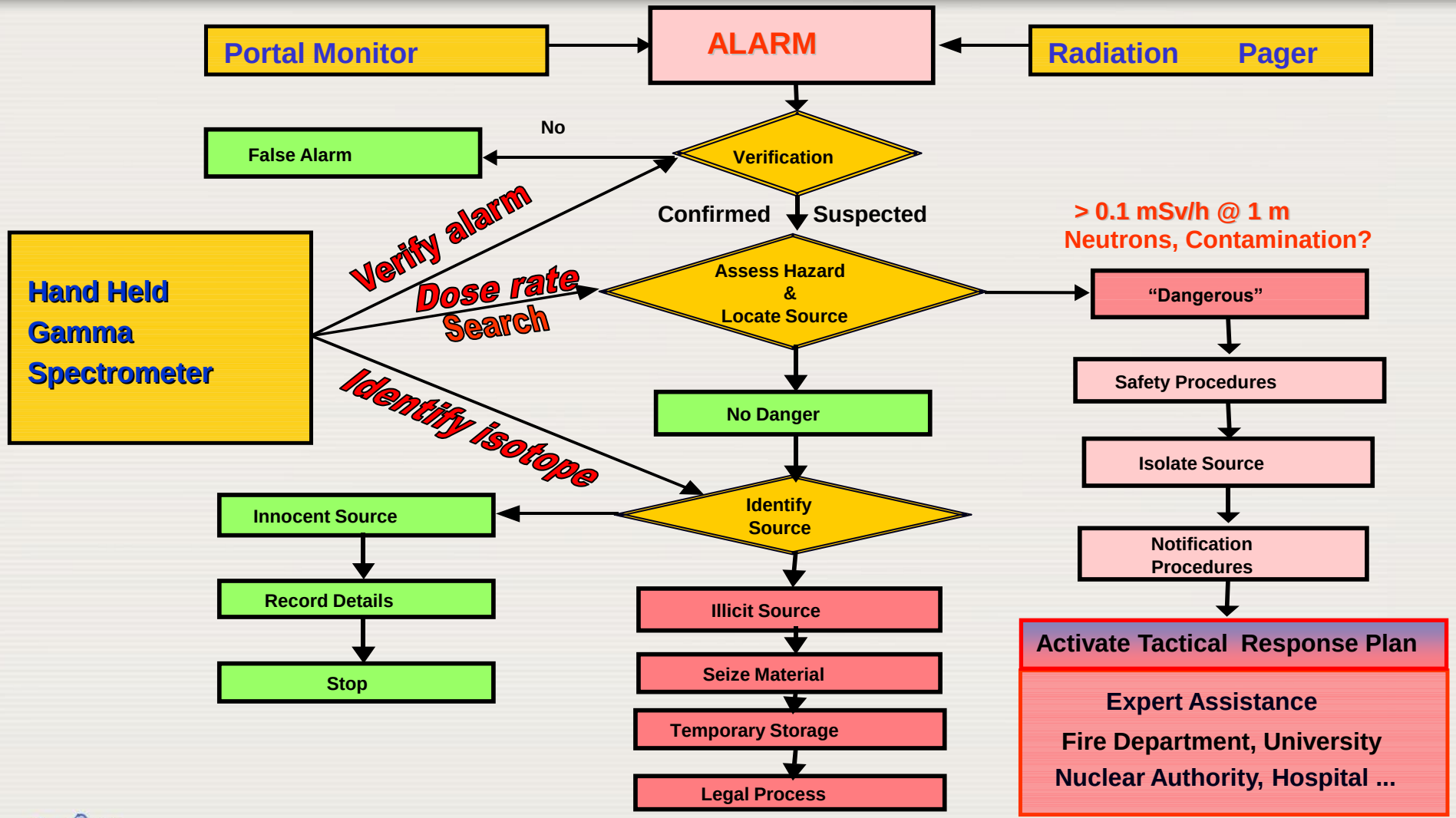
# Operational Response

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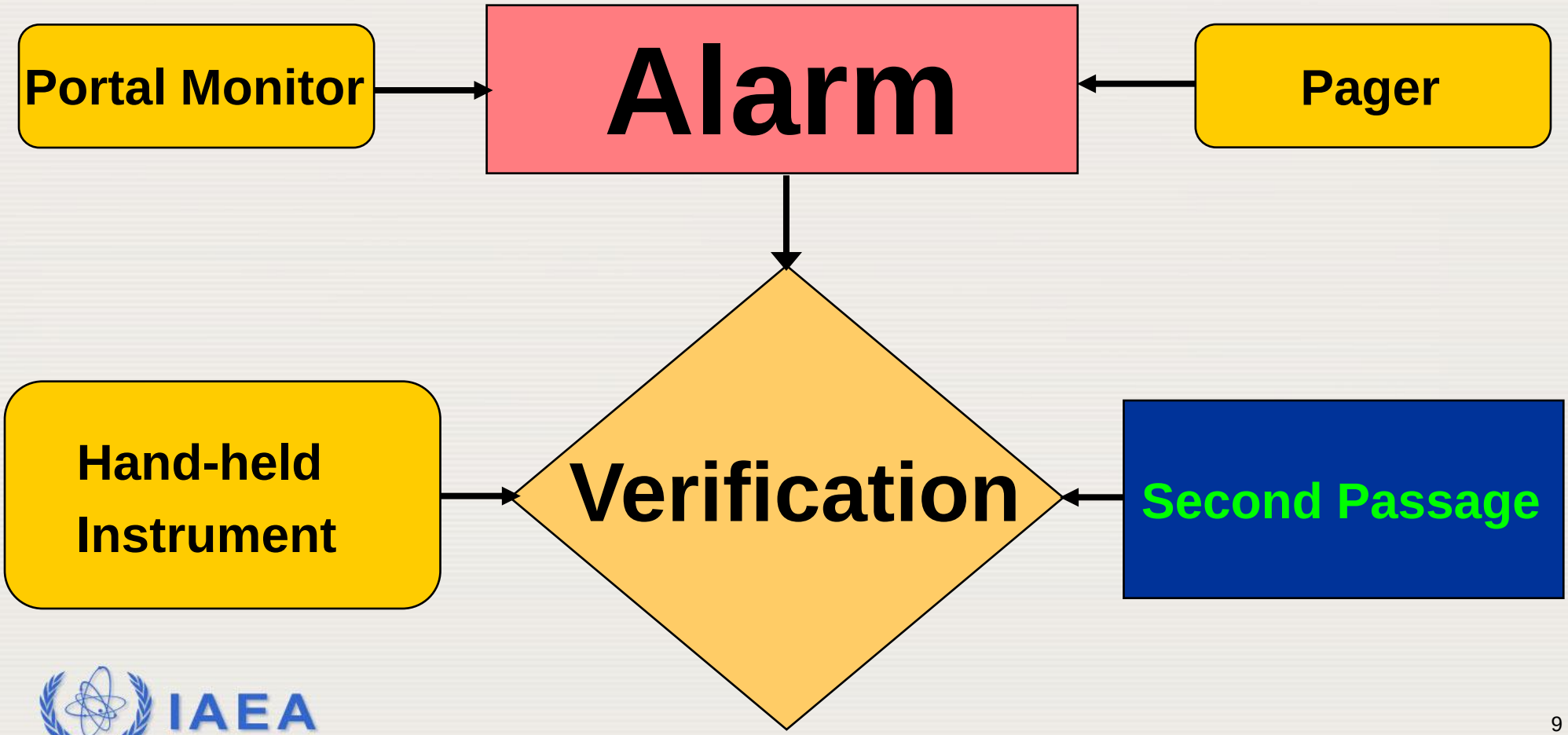
# Operational Response – Step 1

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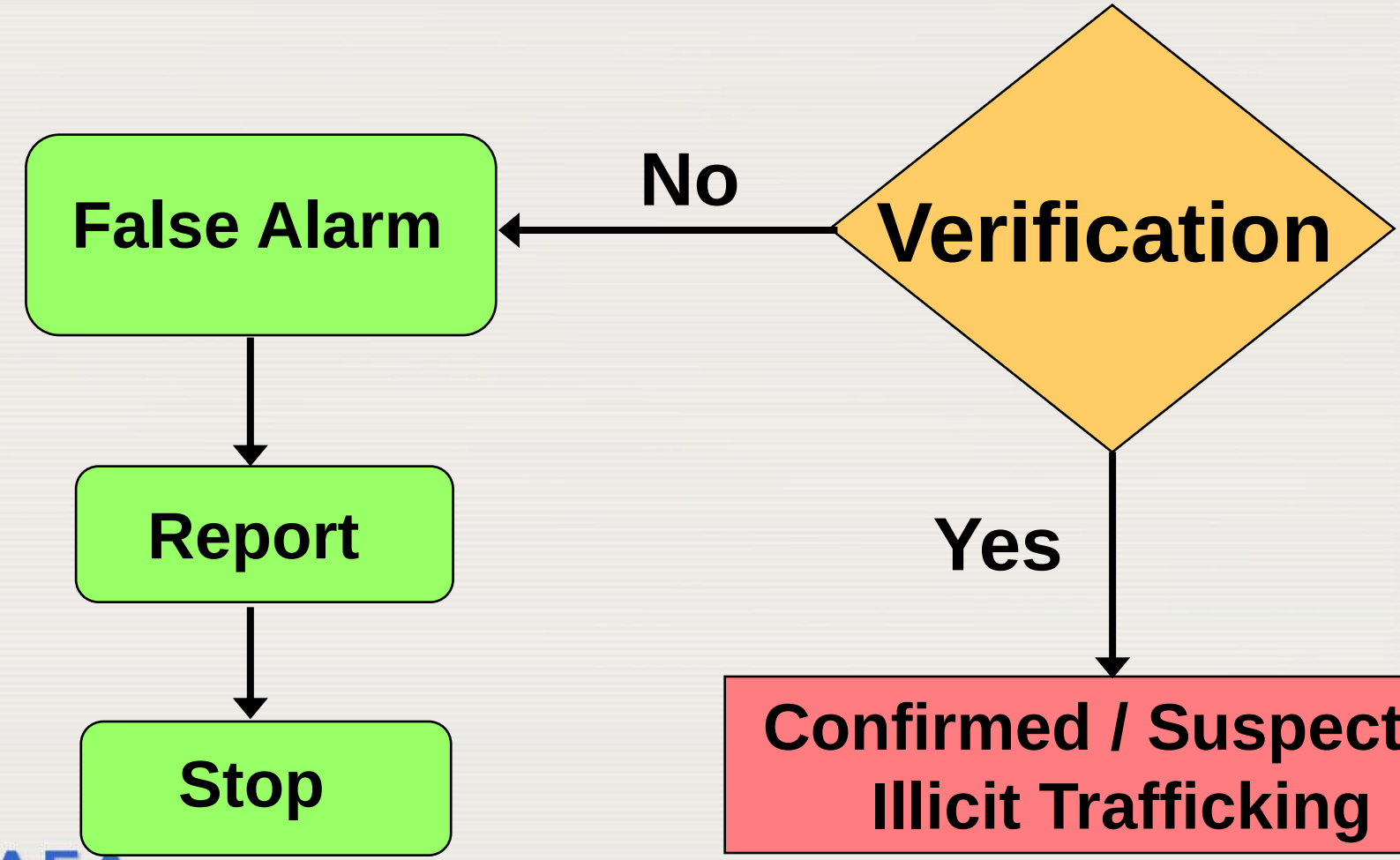
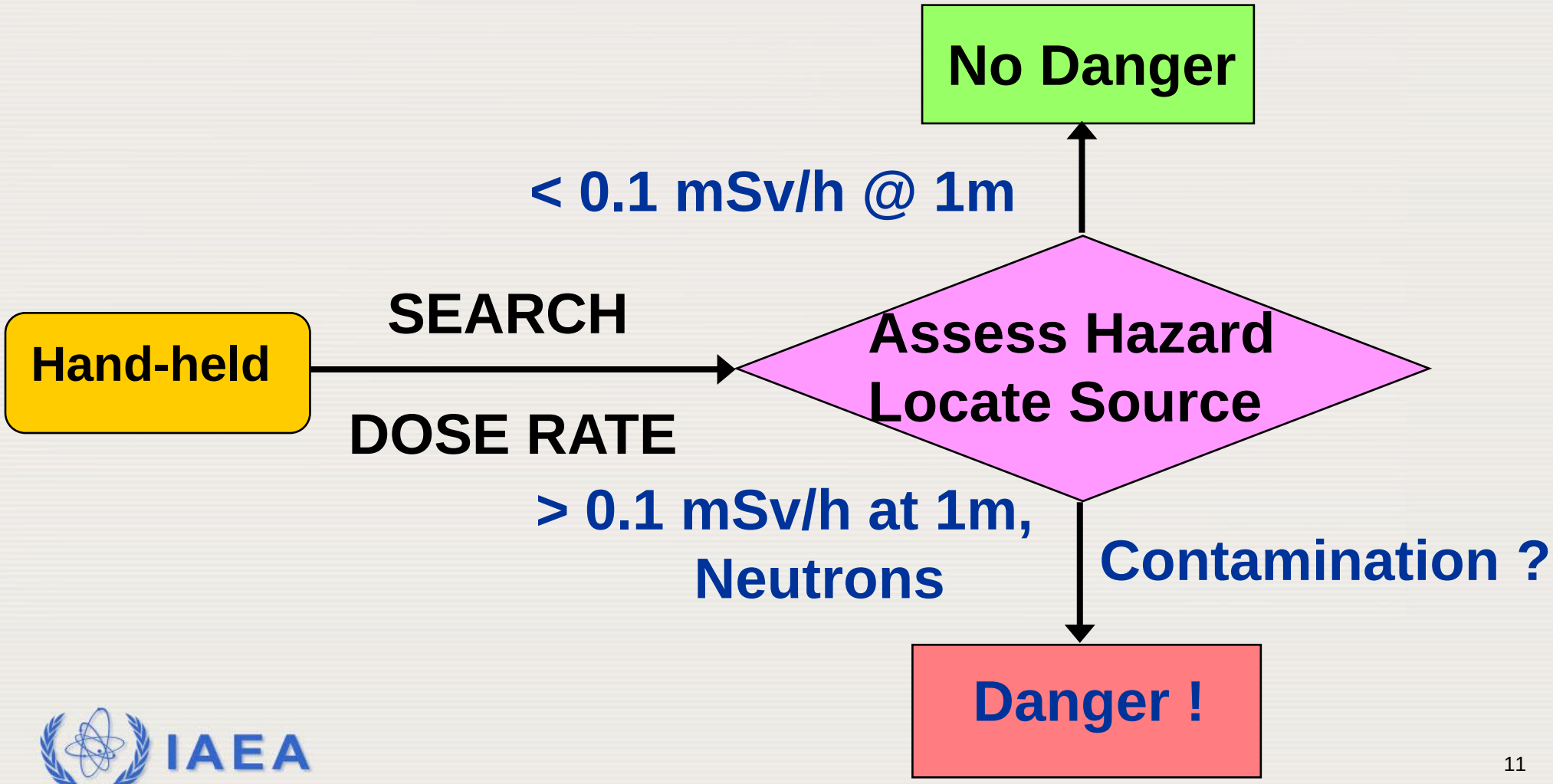
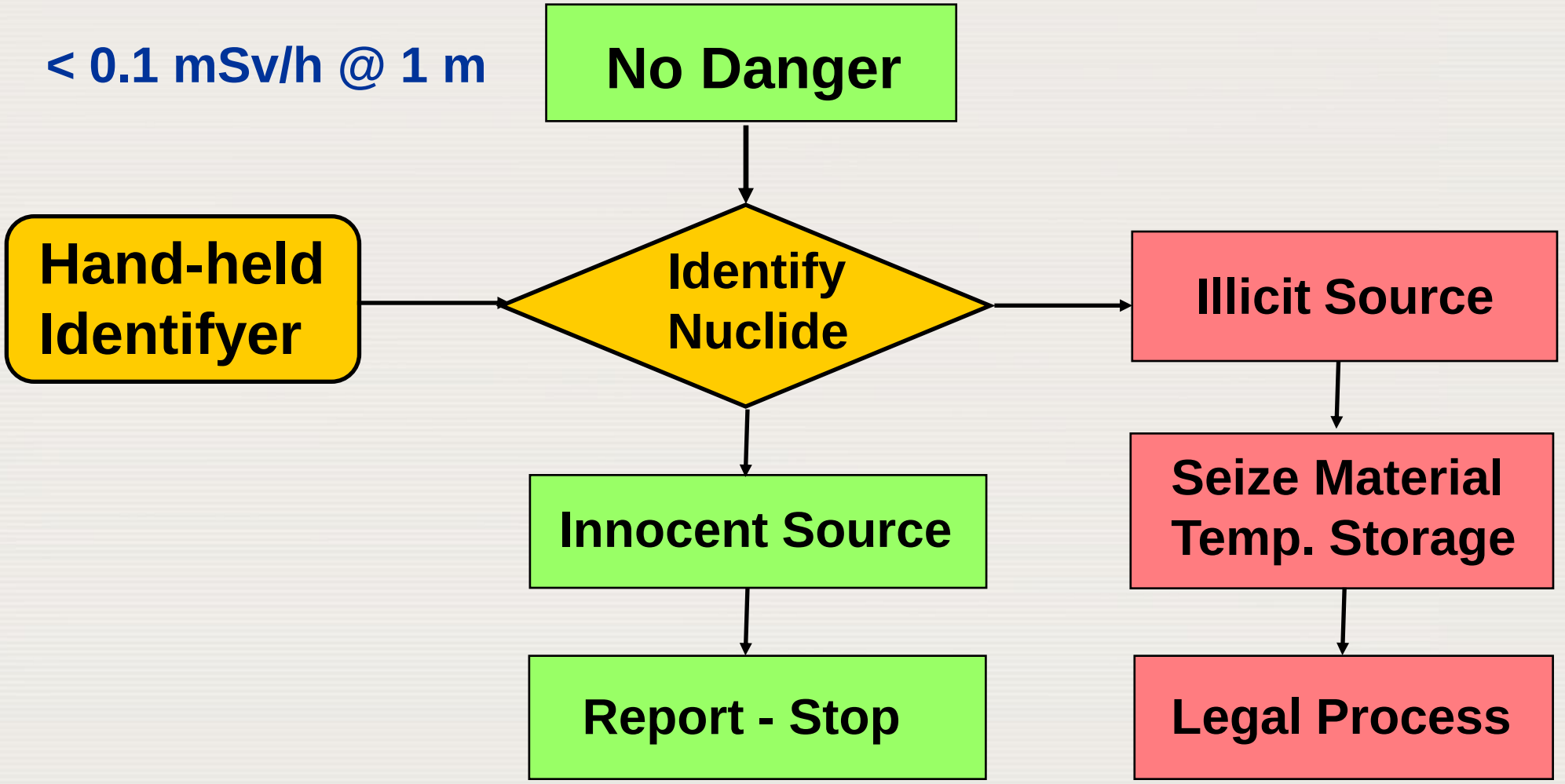
# Operational Response – Step 2



# Operational Response – Step 3

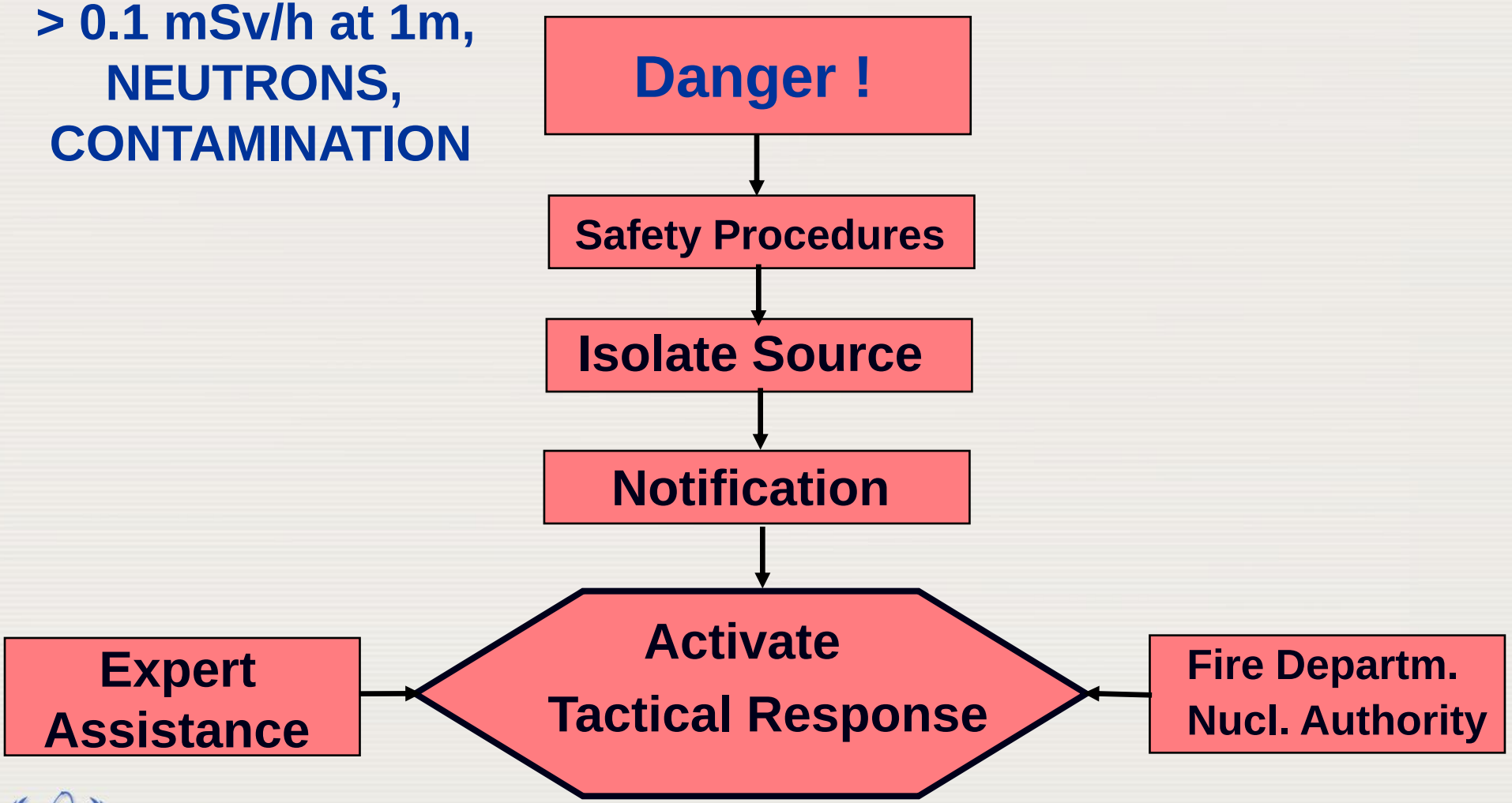


# Operational Response – Step 4



# Operational Response – Step 5

**> 0.1 mSv/h at 1m, NEUTRONS, CONTAMINATION**

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# Mitigation of Radiation Hazard

Minimizing external radiation exposure:

- Maintain safe distance from the radioactive source
- Limit the time in close proximity of the source
- Use shielding materials

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# Mitigation of Radiation Hazard

Avoiding internal contamination via inhalation or ingestion:

- Do not touch or disturb any materials, which have leaked or spilled from a suspicious container
- Do not eat, drink or smoke within the cordon controlled area prior to being checked for contamination.

# Precautious Measures

- Do not touch suspicious packages or substances
- Always use distance tools to examine suspect packages remotely
- Never touch a source with your hands!!!

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# Precautious Measures

**If contamination is suspected:**

- Always use gloves and protective clothing
- Wash your hands and body with warm soapy water
- Change your clothes immediately and have them thoroughly washed

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# Dangerous Situations

Key Elements:

- Safety Procedures
- Isolation of the Radioactive Source
- Notification Process

# Elements of Tactical Response

Command Structure: Incident Commander, Radiological Supervisor, Investigation Officer

- Incident Command Center
- Cordon Control Areas
- Casualty Handling

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# Elements of Tactical Response

- Gathering Evidence, Arrest of Suspects
- Identification of Radioactive Materials
- Seizure of Radioactive Materials, Temporary Storage
- Activation of Emergency Response Plan
- Media Liaison at the Scene

# Incident Command Center

Main Considerations:

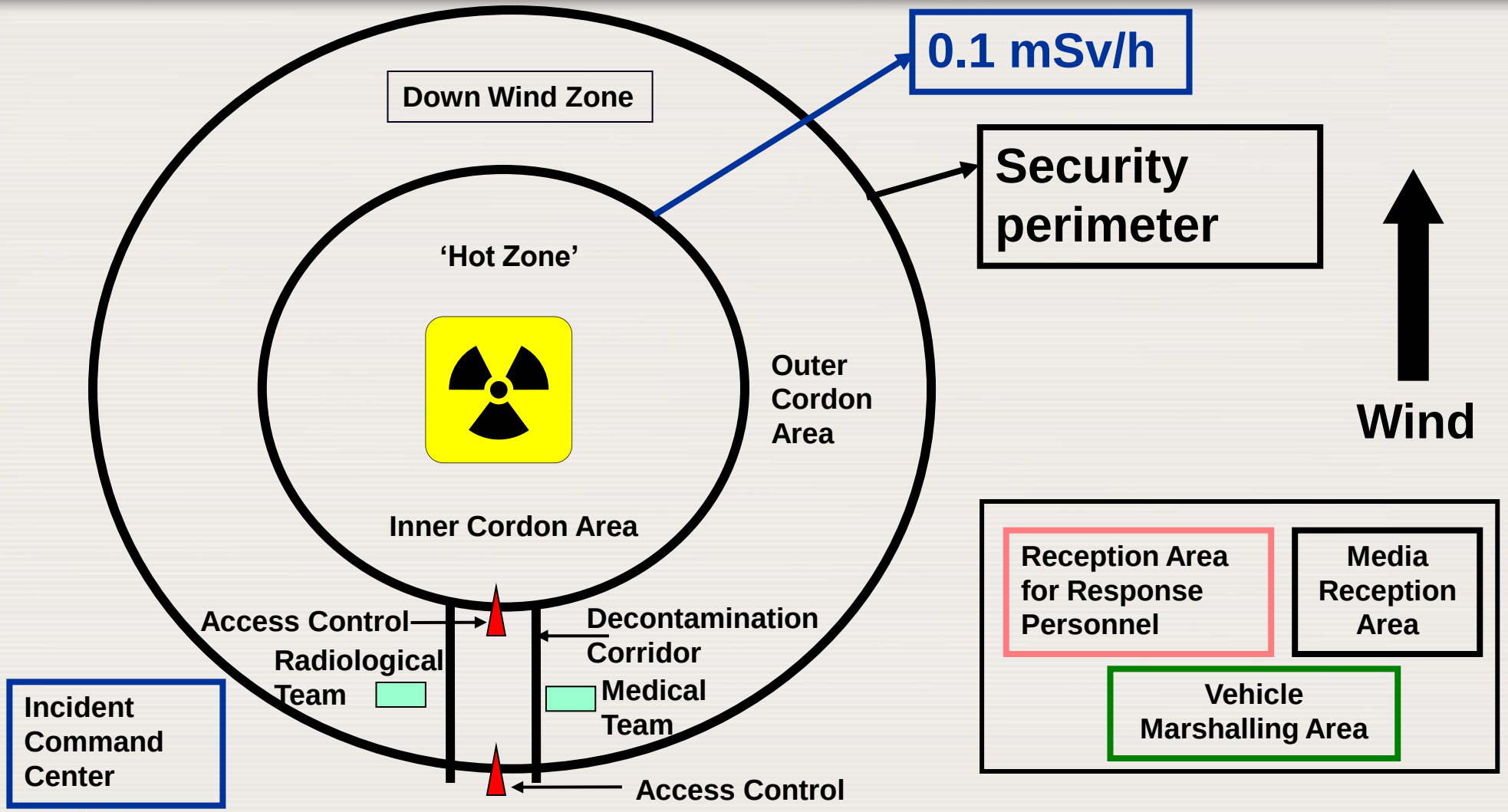
Safe Location - Upwind

Accessible to Vehicles

Conspicuous – Signposts

Secure from Media

# Cordon Control Areas



# Casualty Handling at the Scene

1. Stop Irradiation

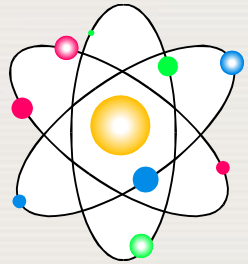
   Remove Victim or Source

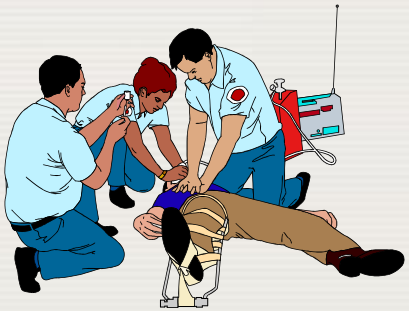
2. Check Vital Signs

   Consciousness - Breathing – Circulation

3. Resuscitate (if necessary)

4. Transport to Hospital





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# Seizure of Radioactive Materials

The Incident Commander should ascertain:

- Identity, quantity and physical properties of the Radioactive Materials
- Physical condition of the materials

# Seizure of Radioactive Materials

The Incident Commander should ascertain:

- Availability of resources for storage and transport
- Capability to handle loose or spilled materials
- Whether immediate removal is necessary and possible

# Strategic Response

**If the situation is very serious, e.g. if hidden explosives ("Boobie Traps") are suspected, and therefore assessed as a potentially severe Radiological Incident presenting a hazard to the public and the environment, the Incident Commander will take steps to activate the Local or National Emergency Response Plan, involving several different Agencies and Authorities**

# What other response will be needed?

- Will the requirements of an amended CPPNM add to the required response?
- How about the new “Suppression of Nuclear Terrorism Convention”?
- Do your national regulatory and criminal laws provide the needed authority?
- Do you have a comprehensive ‘picture’ of your security landscape?

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