



**IAEA/ANL**  
**Interregional Training Course**



**Technical and Administrative Preparations  
Required for Shipment of Research Reactor  
Spent Fuel to Its Country of Origin**

Argonne National Laboratory  
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**Lecture L.2.1b**

**Convention on the Physical Protection  
of Nuclear Material**

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## CONVENTION ON THE PHYSICAL PROTECTION OF NUCLEAR MATERIAL

- ◆ Convention shall apply to nuclear material used for peaceful purposes while in international nuclear transport.
- ◆ Each State Party shall take appropriate steps within the framework of its national law and consistent with international law to ensure as far as is practicable that, during international nuclear transport, nuclear material within its territory, or on board ship or aircraft under its jurisdiction insofar as such ship or aircraft is engaged in the transport to or from that State, is protected at the levels described in Annex I.
- ◆ 45 Signatories, 57 Parties on 24/091996

## CATEGORY I AND II MATERIALS

- ◆ CATEGORY I:- 5 kg or more of unirradiated (less than or equal to 100 rads/hour at 1 metre unshielded) HEU
- ◆ CATEGORY II:-Less than 5 kg but more than 1 kg of unirradiated HEU
- ◆ CATEGORY II:-10 kg or more of LEU
- ◆ CATEGORY II:-5 kg or more of irradiated HEU

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## PROTECTION TO PREVENT UNAUTHORIZED REMOVAL OF NUCLEAR MATERIAL OR SABOTAGE

- ◆ Minimize transit time
- ◆ Minimize number of transfers
- ◆ Protect adequately in temporary storage
- ◆ Avoid regular schedules
- ◆ Predetermine the trustworthiness of individuals involved
- ◆ Limit advance knowledge

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## LEVEL OF PHYSICAL PROTECTION DURING INTERNATIONAL TRANSPORT

- ◆ For Category II materials, special precautions including prior arrangements among sender, receiver, and carrier, and prior agreement between natural or legal persons subject to the jurisdiction and regulation of exporting and importing States, specifying time, place and procedures for transferring transport responsibility



## LEVEL OF PHYSICAL PROTECTION DURING INTERNATIONAL TRANSPORT

- ◆ For Category I materials, special precautions identified for transportation of Category II, and in addition, under constant surveillance by escorts and under conditions which assure close communication with appropriate response forces

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## **LEVEL OF PHYSICAL PROTECTION DURING STORAGE INCIDENTAL TO INTERNATIONAL TRANSPORT**

- ◆ For Category II materials, storage within an area under constant surveillance by guards or electronic devices, surrounded by a physical barrier with a limited number of points of entry under appropriate control or any area with an equivalent level of physical protection



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## **LEVEL OF PHYSICAL PROTECTION DURING STORAGE INCIDENTAL TO INTERNATIONAL TRANSPORT**

- ◆ For Category I material, as defined for Category 11, with access restricted to persons whose trustworthiness has been determined, and under surveillance by guards who are in close communication with appropriate response forces. Specific measures taken in this context should have as their object the detection and prevention of any assault, unauthorized access or unauthorized removal of material.