INECP Export Control System Development and Capacity Building

International Nonproliferation Export Control Program
National Nuclear Security Administration
US Department of Energy

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INECP Presentation Outline

- **Nonproliferation and Export Controls**
- **Overview and Mission**
- **Spotlights on Three Main Pillars of INECP Activity**
  - Licensing
  - Enterprise Outreach
  - Enforcement
- **Commodity Examples**
- **Tools/Materials Available**

Proliferators Attack Export Control Weaknesses

Supplier	Agent/ Broker	Intermediate Consignees	End User
• Some suppliers willing to export illegally, out of ignorance, for economic reasons, or to provide clandestine assistance • Inaccurate or vague commodity descriptions complicate enforcement	• Agents of foreign procurement networks obtain goods, often with circuitous buying patterns, and ship without license • Disguises or falsifies the final recipient country and/or the end user • Exploit countries with ineffective export controls and other loopholes	• Diversion in transit and smuggling • Use of other enterprises and universities to acquire facilities, equipment, technology and training • Cover names and front companies – diversion to unknown ultimate end user	• Utilization of dual-use or uncontrolled commodities to obscure the actual use in a weapons program • False end use statements, connections to activities of concern

International Nonproliferation Export Control Program (INECP)

MISSION

Strengthen global efforts to prevent proliferation of WMD-related materials, equipment, and technology

AREAS OF ENGAGEMENT

Proliferation Risk Analysis in the Licensing Process

- Ensure the license review process competently assesses proliferation risks associated with end-uses and end-users, and ensure technical specialists are being utilized

Government Outreach and Enterprise Compliance

- Assist governments to establish outreach programs and promote enterprise compliance at key enterprises and technology holders

WMD-related Commodity Identification Training and reach-back for Customs

- Ensure enforcement personnel are sensitized to WMD-related materials and equipment, and have access to technical/analytical resources and support

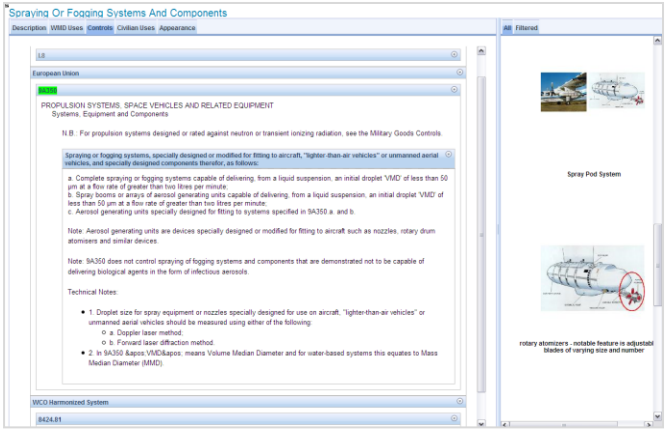
Spotlight on ENFORCEMENT

Commodity Identification Training (CIT)

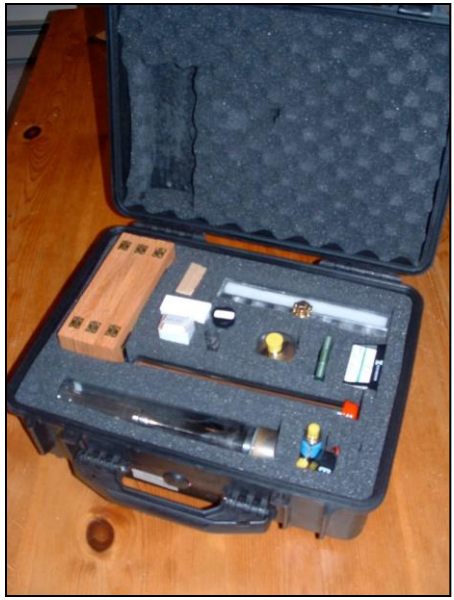
National Nuclear Security Administration

- **Familiarizes enforcement officers with the materials, components, and equipment sought by WMD procurement programs**
- **Reduces the complexity of the various export control lists**
  - Grouping commodities by physical appearance and category (nuclear, missile, chemical/biological)
- **INECP follows a train-the-trainer approach, based on our technical partnerships, to establish ongoing, country-led training programs and technical "reach-back" capabilities**

e-CIT



XRF Device



CIT Demonstration Kit

CIT Training Manual (Latvia)

Both front-line familiarity and technical reach-back are key in dual-use interdiction cases

Commodity Identification Training

Emphasizes familiarity and practical, useful information

- **For each controlled item, CIT focuses primarily on <u>appearance</u> and other readily identifiable criteria such as**
  - Special markings, notable features, packaging characteristics, typical values, and container types, sizes, and weights.
- **CIT also summarizes**
  - Where each item fits into a WMD program
  - Typical civil/legitimate uses
  - Key control parameters
    - *Without going into technical details, CIT highlights the key parameters that distinguish between controlled and uncontrolled items*
    - *CIT also helps the inspector know which ones lend themselves to easy determination in the field and which ones require technical assistance*

Emphasis is on practical, useful information

CIT Modules

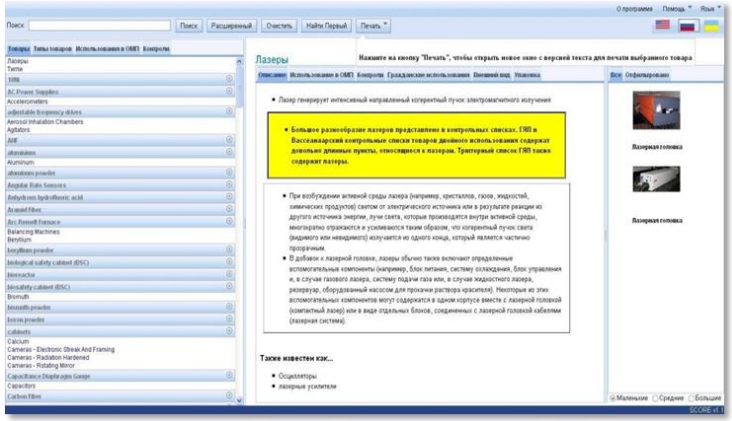
Electronic Components	Electronic Equipment	Industrial Equipment – Nuc/Missile	Industrial Equipment – Chem/Bio	Structural Materials	Chemicals	Radioactive and SNM	Fabricated Components	Systems and Subsystems
Capacitors	Cameras – Electronic Strak and Framing	Balancing Machines	Aerosol Inhalation Equipment	Aluminum	Calcium	Alpha-emitting radionuclides	Crucibles	Liquid Propellant Engines
Detonators	Cameras – Radiation Hardened	Dimensional Inspection Machines	Agitators	Beryllium	Chlorine Trifluoride	Nuclear Materials	Gas Centrifuge Components	Reentry Vehicles
Firing Sets	Cameras – Rotating Mirror	Electrolytic Cells	Centrifugal Separators	Fiber	Cyanide Compounds	Radioactive (Dirty Bomb) Materials	Multi-walled Piping	Solid Propellant Motors
Flight Controls	DC Power Supplies	Filament Winding Machines	Chemical Reaction Vessels	Graphite	Heavy Water	Radium	Radiation-Shielded Windows	Spraying and Fogging Systems
Inertial Sensors (Accelertometers and Gyroscopes)	Frequency Changers	Flow/Spin Forming Machines	Columns and Towers	Hafnium	Hydrogen Fluoride	Tritium	Tanks	Thrust Vector Control Systems
Photomultiplier Tubes	Gravity Meters	Furnaces	Cross-Flow Filtration Equipment	Maraging Steel	Lithium		Valves	Turbine Engines
Pressure Sensors	Lasers	Gas Guns	Fermenters	Titanium	Metal Powders			Unmanned Aerial Vehicles
Pressure Tranducers	Mass Spectrometers	Isostatic Presses	Filling Equipment	Tungsten	Phosphorus Pentasulfide			
Switching Devices	Neutron Detectors	Machine Tools	Freeze-Drying	Zirconium	Platinized Catalysts			
Thermal Batteries	Neutron Generators	Mixers/Mills	Heat Exchangers		Propellant chemicals			
Toxic Gas Monitors	Oscilloscopes	Motion Simulators	Protective Equipment		Sodium Sulfide			
	Pulse Generators	Pumps	Pumps					
	Radar Altimeters	Remote Manipulators	Vacuum Pumps					
	Radar Systems	Robots						
	Superconducting Solenoidal Magnets	Vacuum Pumps						
	Telemetry and Telecontrol Systems	Vibration Test Systems						
	X-Ray Systems							

The commodity selection for a particular training course is tailored based on local/regional production and trade flows

INECP Technologies & Reference Guides
eCIT Web Applications

National Nuclear Security Administration

- **Online repository of CIT commodity information accessed using the Strategic Commodity Reference (SCORE) web application.**
  - Provides secure, searchable CIT information and relevant export control lists through a simple user interface.
  - System is customizable to meet partner countries' needs.
  - International eCIT Repository available to CIT-trained personnel in INECP partner countries:
    - *2,084 accounts in 85 countries.*
    - *Stand-alone System provided to South Africa, Sweden, Ukraine, and United Arab Emirates*
- **Currently developing smartphone applications to support enforcement an licensing officers**

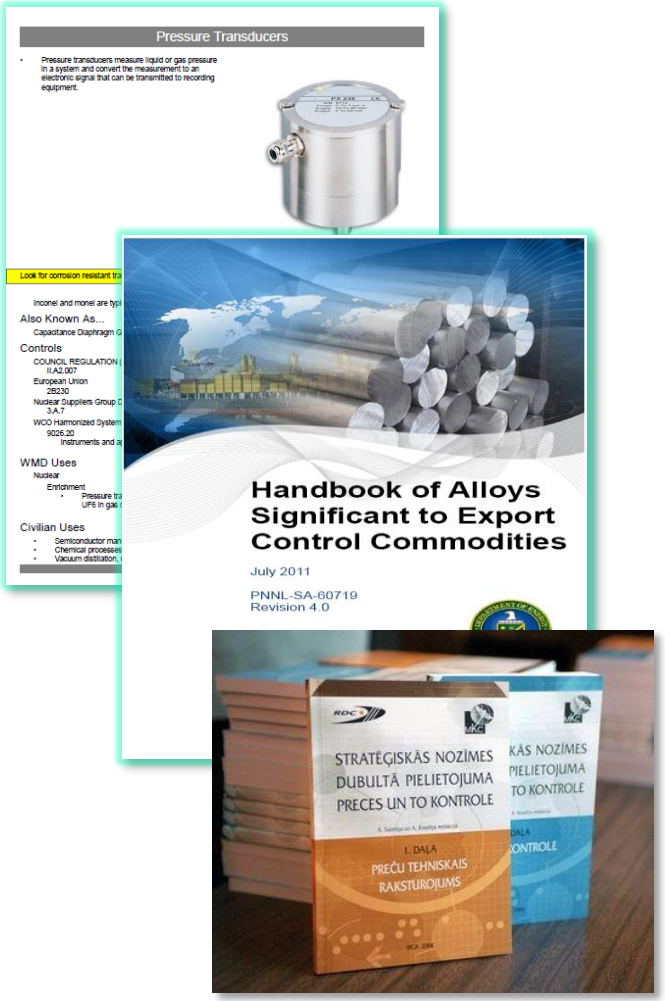


Ukrainian eCIT/SCORE

Smartphone Version of Chemical Cross-Reference Handbook Using CIT

INECP Technologies & Reference Guides Technical Guides

- **Guides and Handbooks**
  - Cross-Reference for Export-Controlled Chemicals
  - Export-Controlled Alloys Reference Handbook
  - Open-source Internet Research Guide
- **eCIT-generated commodity handbooks and field guides**
- **Partner developed**
  - Latvian textbooks for university-based course
  - Russian, Ukrainian and Georgian versions of NSG Dual-Use Handbook
- **Other NNSA-developed resources**
  - NSG Dual-Use List and Trigger List Handbooks
  - MTCR Annex Handbook
  - NSG and AG Licensing and Enforcement Officers Manuals
  - Handbook for the AG Dual-Use Chemical and Biological Equipment, Chemical Weapons Precursors
  - PSI WMD Commodity Reference Manual



Questions/Comments?

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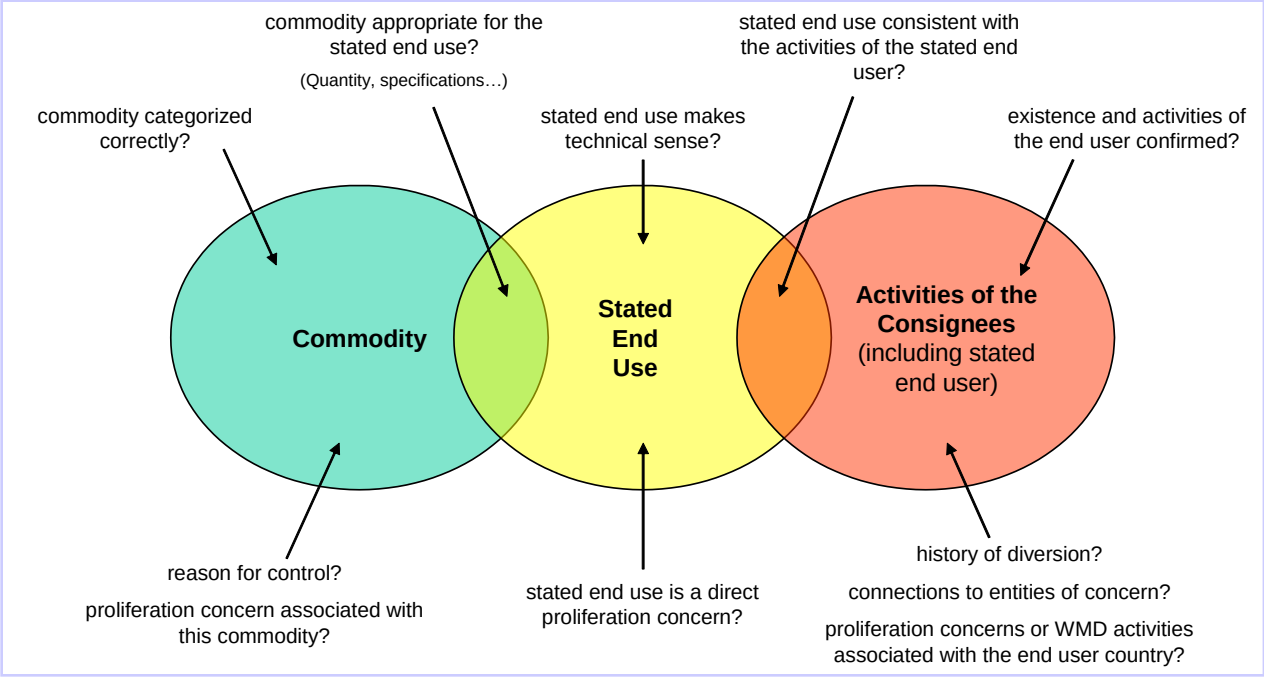
Back-up Slides

Spotlight on LICENSING

- **Technical Introduction to Licensing (TIL) introduces countries in the process of developing a national control list to the structure and technical content of the European Union Dual Use List.**
- **End Use/End User (EU/EU) Analysis focuses on strengthening the ability of analysts to uncover suspicious procurement activity and assess proliferation risk.**
- **Analysis of Strategic Commodity Transfers (ASCOT) helps analysts better understand multilateral controls, including the commercial and WMD applications of listed commodities.**



Spotlight on ENTERPRISE OUTREACH

- **Our unique value added**
  - Implementing compliance programs at US National Labs
  - Unique knowledge of technology suppliers
  - Intangible technology control
  - Technical understanding of the control lists, commodities, WMD programs, and acquisition networks
- **Our niche**
  - Public sector, tertiary enterprises and legacy WMD sectors (nuclear, missile, chemical, biological)
  - INECP's flexibility has also allowed us to quickly respond to partner government requests for assistance when other agencies cannot