NUCLEAR PHYSICAL SECURITY
Motivation

- NUCLEAR TERRORISM:
  - Unauthorized removal on purpose to manufacture of self-made explosive devices
  - Unauthorized removal on purpose of dissipating
  - Sabotage with relation to NF, NM and other radioactive materials

- CRIMINAL MOTIVATION

- POLITICAL COMMITMENT

- RELIGIOUS EXTREMISM

- SABOTAGE, DEMONSTRATIONS
Nuclear security measures - is part of the global security measures, which deals with threats of nuclear security and includes international obligations, agreements and other international instruments.

Nuclear security measures are directed against…

Prevention | Intrusion detection | Response

… nuclear theft, sabotage (diversion), unauthorised access, unauthorized movement or other abusive actions in relation to nuclear materials and other radioactive substances or nuclear facilities.
Normative legal base

✓ Provides a framework for balancing of the risks and benefits on national and international levels;
✓ It includes both "hard" and "soft" law;
✓ It includes a set of basic principles;
✓ Describes illegitimate acts, such as crimes related to nuclear terrorism.

The traditional position to nuclear law covers four main areas: nuclear safety, physical security, safeguards and responsibility.
**LEGALLY BINDING INSTRUMENTS**

Convention on the physical protection of nuclear materials (145 members) and the amendment d/d 2005
- Convention on suppression of acts of nuclear terrorism
  - UN Security Council Resolution 1540, 1977, 1373
- Non-Proliferation Treaty
- Agreement on comprehensive safeguards (INFCIRC 153)
- Additional protocols (INFCIRC 540)
- Agreements INFCIRC / 66
- The rules on export and import control
International law

**NOT VALID**

- Code of conduct on nuclear and physical nuclear security of radioactive sources (INFCIRC / 663) (INFCIRC / 663)

- Instructions on the import and export of radioactive sources (INFCIRC / 663)

- Physical protection of nuclear material and nuclear facilities (INFCIRC / 225 / Rev.4 Rev.5)

- Fundamentals of physical protection approved by the Board of Governors in September of 2012.

- Code of conduct on the nuclear security of research reactors (GOV / 2004/4 and Corr.1)
Kazakhstan legislation

- RKL «atomic energy uses»
- RKL «ratification of agreement on the IAEA safeguards»
- RKL «ratification of the additional protocol to agreement»
- RKL «accession Kazakhstan to a convention of the physical protection of NM»
- RKL «ratification of the amendment to the convention of PP»
- RKL «resolution and notifications»
- RKL «Official Secrets Act»
- TRRK «dangerous goods regulations»
- TRRK «on some issues of licensing»
- TRRK «instruction on security control»
- Interdepartmental authorizing documents, instructions and regulations
Construction principle of NPS of NHO

secured

inner

particularly important

Object

Threats

STATE

COOPERATION

REGIONAL MULTI-LAYERED DEFENSE OF NUCLEAR-HAZARDOUS OBJECTS
International cooperation.
Training centre of NPS. Almaty, INP.

The history of: dates back to:
- 2005, Washington, DC, protocol of working group decision
- 2010, signing of a contract on the construction
- 2013, training of instructors, the US, Russia, Kazakhstan
- 2013 pilot courses for nuclear material accounting
- 2014, the first complete courses for nuclear material accounting

Principal directions
- Physical protection of nuclear materials and nuclear facilities.
- Nuclear material accounting.
- Protection of facilities uses atomic energy and response.
- Prevention of illegal trafficking of nuclear and radioactive materials
International cooperation. Transport control center.

**General objects**
Organization of safety and transportation of nuclear and radioactive materials

- Centralization and monitoring of transport transportation of nuclear materials and radioactive materials
- Control and prevention of illegal trafficking of nuclear materials and radioactive materials

**Basic objectives**
- Condition monitoring of alarms signals of PPS of transport
- Position finding, geolocation
- Reduced response time, operational coordination
THE HISTORY OF CTC:

- Energy partnership of the US Department of Energy and Nuclear Energy Committee of MINT RK (carrying-out of the programme "Global Threat Reduction Initiative") under agreements of Kazakhstan and the United States in the field of nuclear non-proliferation
- The framework agreement between Research and Development Center of nuclear technologies safety and Oak Ridge National Laboratory USA
- The decision of the CAE about creation of CTC on the base of "IAE" branch of NNC RK
- Technical interchange meeting composed of representatives of OAEU and transport companies (promulgation "Enactment of CTC" and "Technical design assignment, creation and supporting of CTC")
- Design and estimate documentation development
- Restructuring of the program
- Selection of the building and premises, construction - installation works, procurement of equipment and materials for CTC

Long-term cooperation to support of CTC activities
STRUCTURE OF THE CTC

Диспетчерский пункт

Система спутникового мониторинга и контроля
Система охранной сигнализации
Система видеонаблюдения и оценки ситуации
Система телекоммуникаций
Системы оперативной связи и оповещения
Обеспечивающие системы

Система спутникового мониторинга и контроля на транспорте

Центральный пульт управления сил охраны и реагирования
TECHNICAL CAPABILITIES OF CTC

- INNER SYSTEM OF PHYSICAL PROTECTION
- PP SYSTEM OF TRANSPORT
- TRUCK-TO-TRUCK RADIO COMMUNICATION
- CELLULAR COMMUNICATION
- SATELLITE COMMUNICATIONS
- GEOLOCATION
- SECURE DATA TRANSFER
- ADDITIONAL FUNCTIONS AND EXPANSION FLEXIBILITIES
THE MAJOR ADVANTAGES

- LEGALLY PROTECTED ACTIVITIES
- AVAILABILITY OF OWN BUILDING EQUIPPED BY ENGINEERING AND TECHNICAL SYSTEMS OF PHYSICAL PROTECTION
- NO INTERNET ACCESS
- DEPENDABILITY OF CTC PERSONNEL
- APPLICATION OF SEVERAL TYPES OF COMMUNICATION
- ANALYSIS AND ARCHIVING OF ANALYSIS OF EACH TRANSPORTATION
- INTERACTION WITH CENTRAL OFFICE
THANK YOU FOR ATTENTION !!!=}