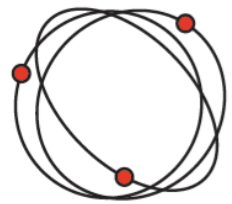


**GKTC**

# **George Kuzmycz Training Center for Physical Protection, Control and Accounting of Nuclear Material**

Institute for Nuclear Research of the  
National Academy of Sciences of Ukraine,  
Kyiv



**GKTC**

"Agreement Between the United States of America and Ukraine Concerning Assistance to Ukraine in the Elimination of Strategic Nuclear Arms, and the Prevention of Proliferation of Weapons of Mass Destruction" signed on October 25, 1993,

and

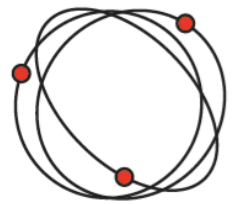
implementing "Agreement Between the Department of Defense of the United States of America and the Ministry of Environmental Protection and Nuclear Safety of Ukraine Concerning Control, Accounting, and Physical Protection of Nuclear Material to Promote the Prevention of Nuclear Weapons Proliferation" signed on December 18, 1993

# **Cabinet of Ministers of Ukraine**

Order on September 3, 1997 N 488-p

**On the list of tasks, assigned to the Scientific Center**

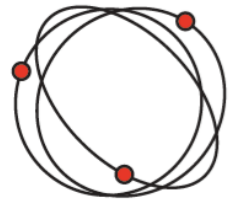
**"Institute for Nuclear Research"**



**GKTC**

- organization and implementation of training for qualification upgrading of specialists involved into accounting and control of nuclear materials, physical protection of nuclear facilities and nuclear materials
- the use of foreign assistance for qualification upgrading of Ukrainian specialists involved into accounting and control of nuclear materials, physical protection of nuclear facilities and nuclear materials

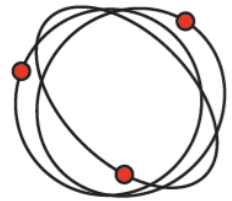
# BACKGROUND



**GKTC**

On October 8, 1998, the George Kuzmycz Training Center for Physical Protection, Control and Accounting of Nuclear Material was officially opened as a part of the Institute for Nuclear Research of the National Academy of Sciences of Ukraine

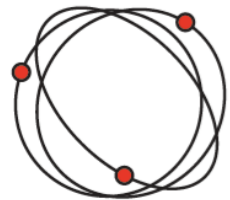
# BACKGROUND



**GKTC**

- According to the **Law of Ukraine “On Physical Protection of Nuclear Facilities, Nuclear Materials, Radioactive Waste, and Other Sources of Ionizing Radiation”** government agencies, operating organizations and licensees are required to verify on a regular basis the level of professional knowledge and skills of their physical protection specialists, proforce personnel, nuclear facility operating staff, personnel responsible for the usage or storage of nuclear material, radioactive waste, and other sources of ionizing radiation, as well as to ensure that such personnel update their knowledge and skills on a regular basis at certified training facilities.

# Stage 1: 1998 – 2004



**GKTC**



Навчальний центр з фізичного захисту, обліку та контролю ядерного матеріалу імені Джорджа Кузмича

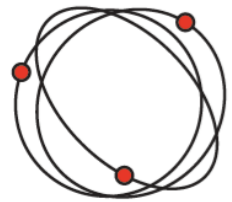
ОСНОВИ ФІЗИЧНОГО ЗАХИСТУ  
ЯДЕРНОГО МАТЕРІАЛУ ТА ЯДЕРНИХ УСТАНОВОК



Київ 2004

- The American experts professionally and tactfully carried out work together with the Ukrainian experts on the preparation and realization of training courses.
- The instructors were the American lecturers, and the participants were representatives of nuclear facilities of Ukraine, regulatory and control bodies, and departments involved in physical protection.

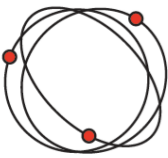
## Stage 2: 2004 – till now



**GKTC**

- The training program and the delivery of training courses at the GKTC are based on principles of the **Systems Approach to Education**.
- The GKTC conducts periodic assessments of training needs in the MPC&A area and, in accordance with the assessment results, reviews its programs to meet the identified training needs as much as possible taking into account the GKTC's actual capabilities.

# TRAINING AUDIENCE



GKTC

- The GKTC has developed training materials and conducts training courses directed **for different categories** of participants, in particular: state inspectors, physical protection specialists from state control bodies, senior staff of Guard units, employees of physical protection divisions of nuclear facilities, radioactive waste handling sites, and divisions that implement MC&A at nuclear facilities





Заходи

Учасники

Організації

Напрямки

Вибірка

Сертифікати

Звіти



3D



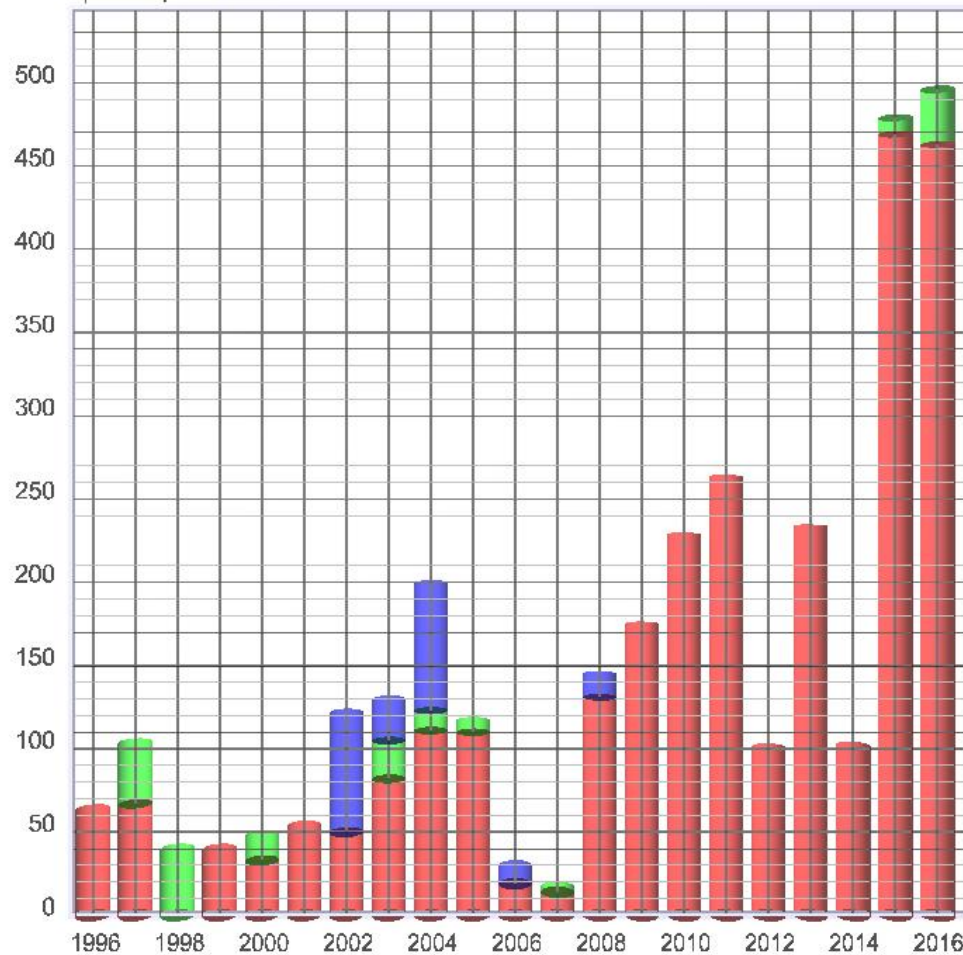
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- 2014
- 2015
- 2016

- Служба ядерної безпеки Міністерства охорони наколишнього с...
- Східний гірничо-збагачувальний комбінат
- Тернопільський обласний клінічний онкодиспансер
- ТОВ "Екодім-Комфорт"
- ТОВ "Укрізотопсервіс"
- ТОВ "ЮТЕМ-Транссервіс"
- Товариство з обмеженою відповідальністю "О.Т.С."
- Товариство з обмеженою відповідальністю "ОДЕСЕМ"
- Товариство з обмеженою відповідальністю "Телепрон"
- Товариство з обмеженою відповідальністю «АвіСат»
- Товариство з обмеженою відповідальністю «Диджитал енд Ана
- Товариство з обмеженою відповідальністю Кузнецовське Налаг
- Товариство з обмеженою відповідальністю Мангістауский атог
- Товариство з обмеженою відповідальністю НВП "УКРТЕХНО-АТС
- ТрЦ ДП УЗФО ЧАЕС
- УДВП "Ізотоп"
- Українське державне виробниче підприємство "Ізотоп"
- Український науково-дослідницький інститут протехнологій
- Українсько-польського спільного підприємства "Макрохем-Укра
- Укрзалізниця
- Управління Державної охорони
- Управління поліції міста Рига
- Фізико-енергетичний інститут
- Харківський науково-дослідницький інститут "Енергопроект"

## Кількість людей, які навчалися на курсах в УЦДК

Напрямки: **Фізичний захист**  
**Облік та контроль**  
 Навчання держслужбовців

Форми: Курси  
 Період: 1996 - 2016 рр  
 Організації: Всі



Готово

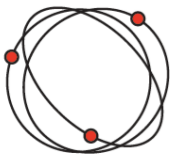
Користувач:

База даних: Courses

# TRAINING CAPABILITIES

Training and conference classrooms, Computer classroom, Library





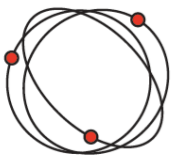
**GKTC**

# TRAINING CAPABILITIES

- Material and technical base of the GKTC allows to provide the course participants with necessary training materials including handbooks and visual aids



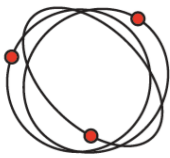
# Non-Destructive Analysis Laboratory



GKTC



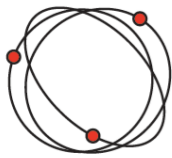
# MC&A CLASS



GKTC



# EXTERIOR TRAINING SITE

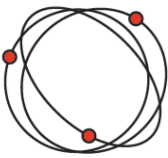


**GKTC**

- The exterior training site is designed for simulating the real-life conditions in which integrated physical protection systems operate at a nuclear site



# EXTERIOR TRAINING SITE



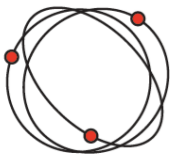
Training Classroom and the Central Alarm Station (CAS) with server

**GKTC**



# EXTERIOR TRAINING SITE

Detection means and TV surveillance means

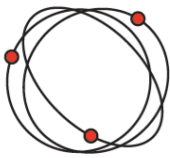


**GKTC**





# EXTERIOR TRAINING SITE



**GKTC**

Personnel access control point



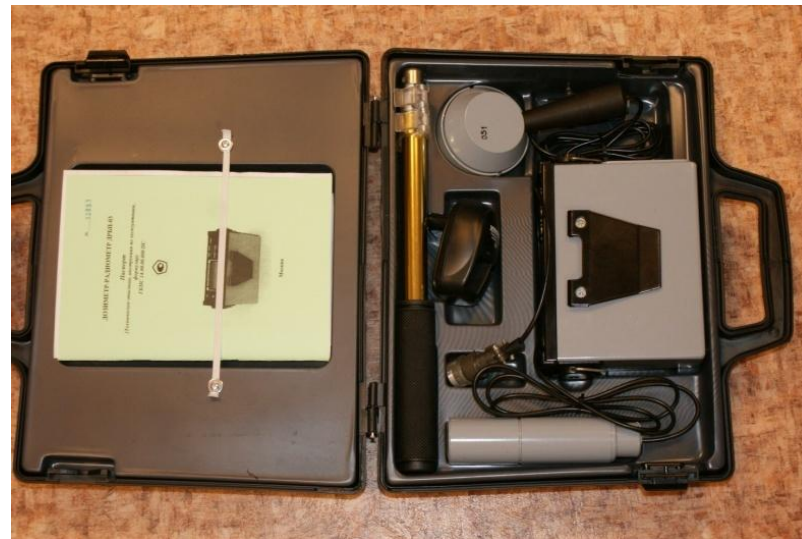
# EXTERIOR TRAINING SITE

Transport access control point

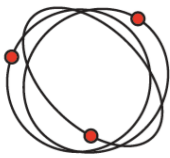


# EXTERIOR TRAINING SITE

Means for detection of prohibited items, explosive and radioactive materials



# TRAINING PROGRAMS



GKTC

- The Center has developed a total of 20 + 11 courses on Physical Protection, 7 courses on MC&A, 5 courses on Nuclear Security Culture, 4 courses on Physical Protection for NRCU inspectors
- Duration of the courses are from 15 to 144 hours
- Program of the each training course makes provision for practical and laboratory exercises, which take up from 30 % to 80 % of total course time



<b>Topic of the course on physical protection for NF personnel</b>	<b>Duration (hours)</b>
Physical protection as an element of the national security	24
Legal and Regulatory Basis for Physical Protection	36
Fundamentals of PP of nuclear facilities and nuclear materials	36
Fundamentals of physical protection of SIRs and RAW	36
Introduction to Physical Protection for Pro Forces	36
Introduction to Physical Protection Systems Design	36
Analysis and Modelling of Physical Protection Systems	36
Physical Protection Systems Performance Testing	36
Vulnerability Assessment Methodology	36
Physical protection procedures	36
Physical Protection System Guard Unit Functions	36
Management of Engineering and Technical Means of PP System	36
Security Transportation	36
Vital Area Identification	36
Physical Protection System Management	72
Physical protection as an element of the national security	72
Ensuring of continuous functioning of effective physical protection system	36
Physical protection for instructors on PP from NPP Training centers	36
CAS: destination, its operators, functions	144

<b>Topic of the course on physical protection for personnel of the Guard units of NGU</b>	Duration (hours)
Ukrainian Legislation on Physical Protection and Military Guarding	24 /40
The Insider Threat	12/40
Introduction to Physical Protection	40
Role and Tasks of Guard Unit Within the Physical Protection System of NPP	80
Guards in Physical Protection System During Transportation of Nuclear Material	40
Physical Protection Procedures	40
Nuclear Security Culture	12/24
Operation of Engineering and Technical Means of PPS by the Guard Unit	40

<b>Topic of the course nuclear security culture (NSC)</b>	<b>Duration (hours)</b>
NSC for mid-level managers of departments of physical protection, control and accounting of nuclear materials	24
NSC for high-level manager on physical protection, control and accounting of nuclear materials	16
NSC for pro-force units' officers	36
NSC for NSC' coordinators at nuclear facilities	36
NSC for responsible persons for NSC at nuclear facility's departments	15

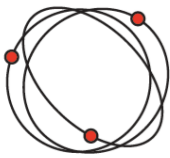
<b>Topic of the course on control and accounting of nuclear materials</b>	Duration (hours)
Fundamentals of control and accounting of nuclear materials	36
Legislation of Ukraine on control and accounting of nuclear materials	20
State system of control and accounting of nuclear materials. Site system of control and accounting of nuclear materials	36
Computerization of system of control and accounting of nuclear materials	36
Methods of detection of nuclear and radioactive materials. Nondestructive analysis of nuclear materials: gamma- spectrometric and neutron	36
Methodology of physical inventory conducting	36
Means of access control to nuclear materials. Means of intrusion detection	36



## **Topics of the courses on advanced training for inspectors of the State Nuclear Regulatory Inspectorate**

<b>Topic of the course</b>	<b>Duration (hours)</b>
Legal Aspects of Physical Protection of Sources of Ionizing Radiation and Radioactive Waste	36
Physical Protection of Sources of Ionizing Radiation	36
Physical Protection of Radioactive Waste	36
Threats, Design basis threat, and site design basis threat to source of ionizing radiation or object for radioactive waste handling	36

# STAFF

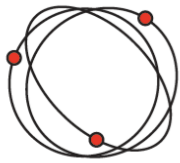


GKTC

- The GKTC staff includes 11 specialists, 3 of them have degree of Candidate of sciences, and 4 have Masters degree
- 30 highly qualified specialists and scientists from various facilities and entities of Ukraine are involved as instructors during training activities at the GKTC



# TRAINING ACTIVITIES



GKTC

- During the years of its operation, the GKTC conducted over 250 training courses; organized and hosted 13 Ukrainian MPC&A conferences
- Over 3500 specialists have participated in training courses, representing 80 various Ukrainian organizations
- 40 international events were held at the GKTC, attended by approximately 800 people from 30 countries worldwide

