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Modernisation of Physical Protection of Russian Nuclear Installations in the Frame of G8GP-Program

Results of the G8 – Summit in Kananakis, June 2002

- Measures to combat terrorism and to increase nuclear safety
- Up to US-\$20 billion over a period of 10 years
- First stage: implementation of cooperation projects in the Russian Federation

German Contribution

1. Destruction, Disposal and Elimination of **Chemical Weapons**
2. Securing and Dismantling of Russian **Nuclear Submarines**
3. Strengthening of the Security of **Nuclear Material** through Modernisation of Physical Protection Measures at Russian Installations

Sites, Proposed by Russian Authorities

- **ROSATOM:** Nuclear Centres for Military and Civilian Research and Production
 - Bochvar /Kurchatov
 - Dimitrovgrad
 - Mayak (Nuclear Weapon Complex)
 - Siberian Chemical Combine (SCK)
- **Ministry of Defence RF:** 3 Depots for Nuclear Weapons and Materials

Budget Allocation

➤ Bochvar:	ca. 6,8 Mio €
➤ Kurchatov:	ca. 2,8 Mio €
➤ Dimitrovgrad:	ca. 6,2 Mio €
➤ Mayak:	ca. 23,2 Mio €
➤ SCK:	ca. 24,8 Mio €
➤ Ministry of Defence:	ca. 66 Mio €
● Total :	ca. 130 Mio €
● Contract Duration	2003 - 2010

Program G8GP: ROSATOM Sites only



GRS: Core Experiences

- **GRS: Technical Safety Organisation (TSO) of the Federal Government**
 - **Nuclear Safety**
 - **Radiation Protection**
 - **Waste Disposal**
 - **Environmental Protection**
 - **Nuclear Security**

GRS Activities in Physical Protection

- **Since 1993 Training Program in Physical Protection for Newly Independent States (NIS)**
- **1995 international Conference in Sankt Petersburg on Physical Protection**
- **Since 1995 - Upgrade Projects in Russia**
- **Since 2003 – G8GP**

Tasks and Procedures

Project Preparation	
General Contract ► German Foreign Office ► GRS	
Contracts GRS ► Russian Nuclear Facilities	
Tasks of GRS	Tasks of Russian Facilities
Review of physical protection analysis - current status - fundamental requirements - weak points identified	Physical protection analysis - analysis of current status - definition of fundamental requirements - identification of weak points
Review of detailed design - definition of protection concept - confirmation of technical measures and administrative improvements	Detailed design on the basis of - agreed scope - technical-economical justification - fundamental requirements

Tasks and Procedures

Preparation of purchasing of systems of physical protection

- determination of special equipment
- preparation of contracts
- involvement of EU suppliers
- purchasing

Installation and commissioning of physical protection equipment

- monitoring of the installation during construction
- partial acceptance test, adherence to physical protection concept

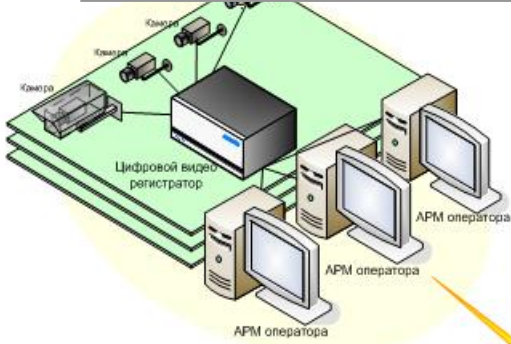
Functional and acceptance tests

- joint examination of physical protection equipment and systems
- final minutes and final report

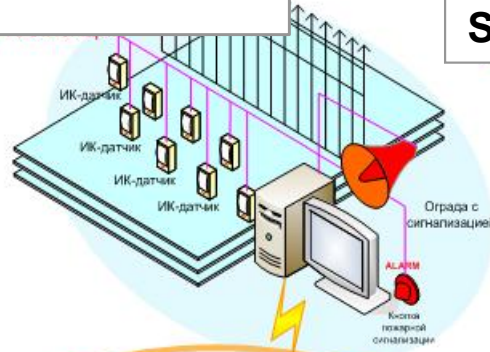




Video Surveillance System



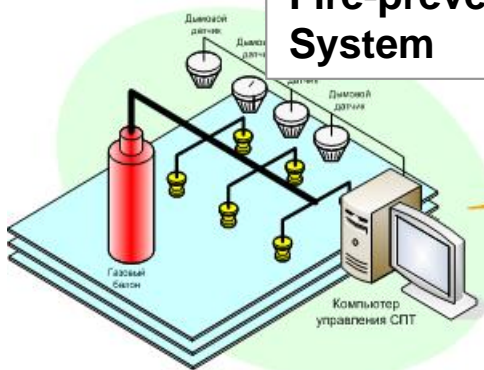
Guard Signaling System



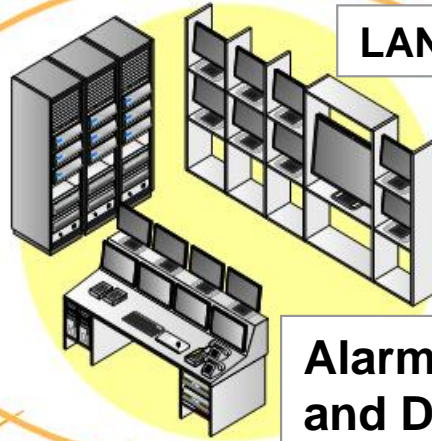
Access Control System



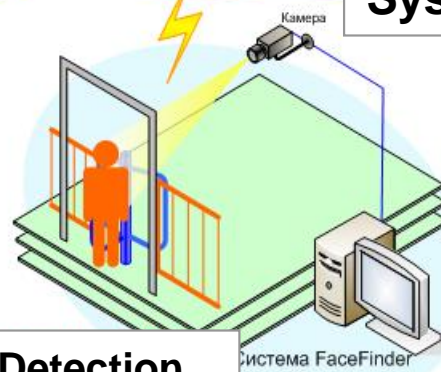
Fire-prevention System



LAN



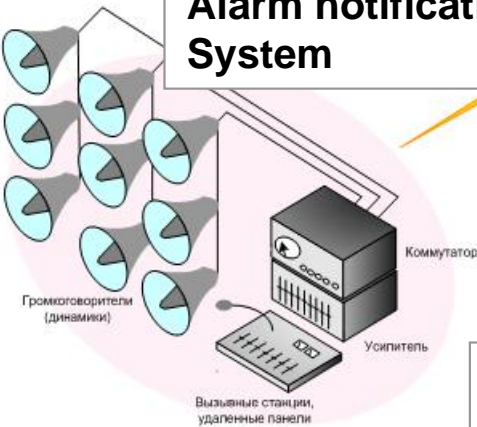
Alarm Control and Display System



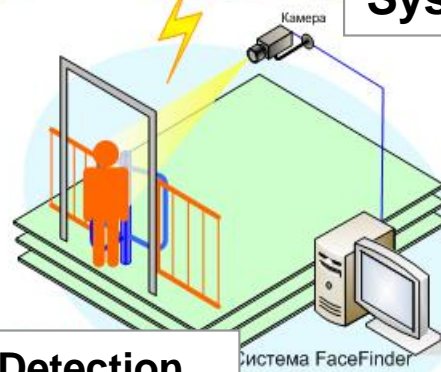
Illumination System



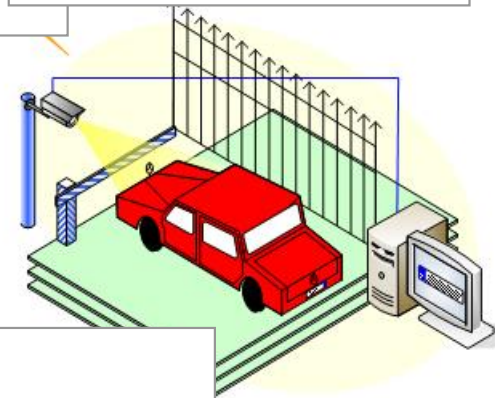
Alarm notification System



Face Detection System



ANPR



Results

- **Bochvar:** Object 1 - Measures have been finished
Object 2 - Review of detailed design
- **Kurchatov:** Measures have been finished
- **Dimitrovgrad:** Review of detailed design
- **Mayak:** under modernisation
- **SCK:** under modernisation
- **Ministry of Defence:** Some depots have been finished, some more are under construction

Summary

- G8GP-Program is aimed to prevent the dispersal of mass destruction weapons resulting from possible terrorist actions
- Germany supports the improvement of Technical Security Systems for the Nuclear Facilities Bochvar, Dimitrovgrad, Depots Ministry Defense RF, Mayak and SCK
- GRS, based on its competence in the field of Security of Nuclear Facilities, assures on behalf of German Foreign Office the Implementation of Technical Security Measures in the mentioned Russian Nuclear Facilities