State Atomic Energy Corporation ROSATOM

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OPTIMIZATION OF ACTIVITIES TO IMPROVE THE NUCLEAR MATERIAL AND FACILITIES SECURITY

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OPTIMIZATION OF ACTIVITIES TO IMPROVE THE NUCLEAR MATERIAL AND FACILITIES SECURITY

1. Urgency of activities to improve the nuclear material and facilities security.
2. Program task planning.
3. Classification of facilities.
4. Assessment of facility protection.
5. Acceptable risk. Risk management.
6. Distribution of the scopes of activity.

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APPROACHES TO PROGRAM TASK PLANNING

- Selection of logistical and technical measures and options for building physical protection systems are based on reliable data and modern risk management methods.

- Management of a process for improving physical protection is based on a complex analysis of the current conditions at facilities and during transportation of nuclear material.

- Rational distribution of resources at all levels and planning stages (including the federal level) are aimed to achieve the main task and optimize current expenses.

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ELEMENTS OF PROGRAM TASK PLANNING

- Clear results planning.
- Financing with due account of priorities.
- Direct financing of specific jobs.
- Comprehensive monitoring of the achieved results.

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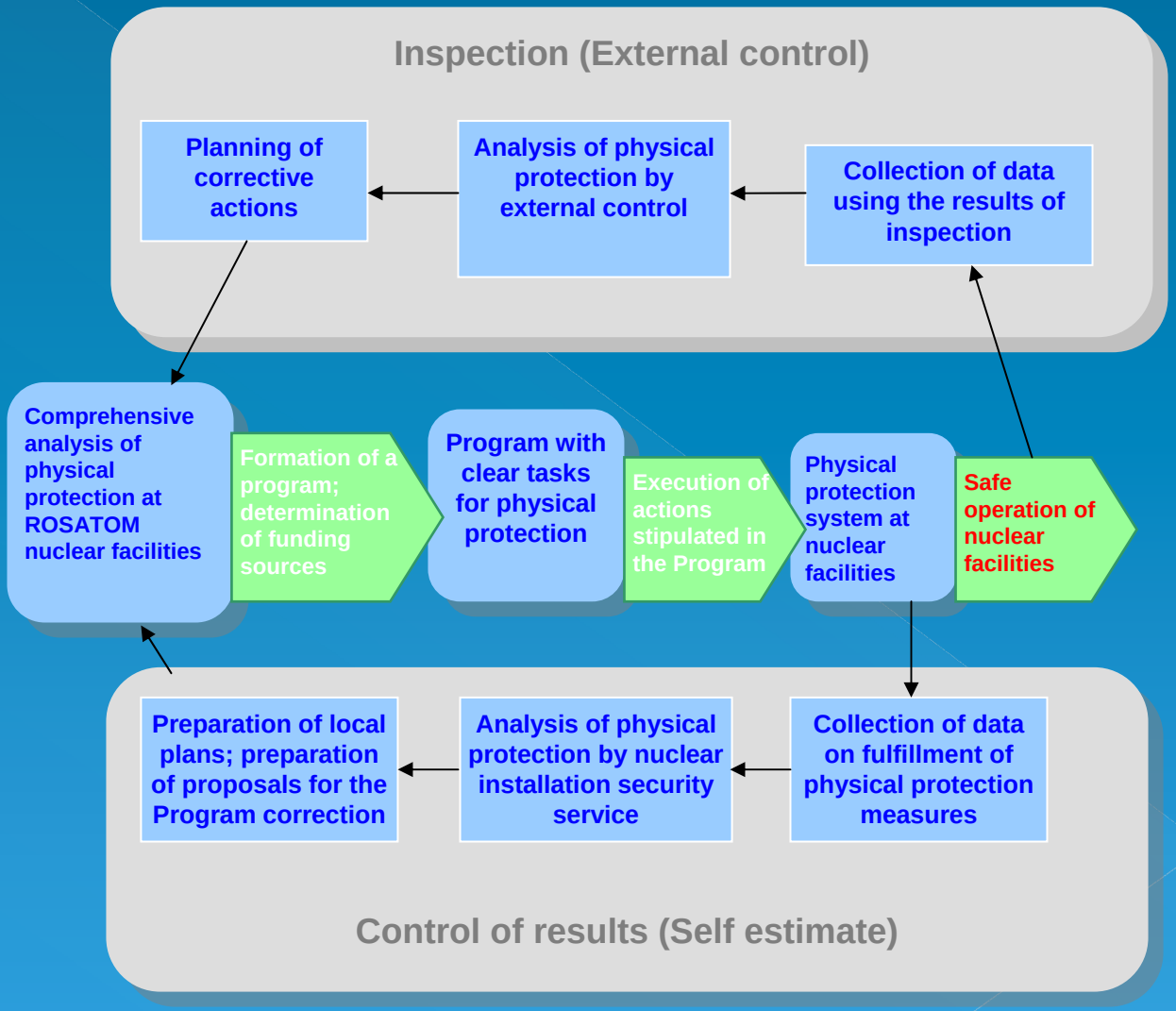
PROGRAM TASK PLANNING TO IMPROVE PHYSICAL PROTECTION OF ROSATOM NUCLEAR FACILITIES



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CATEGORIZATION FOR PHYSICAL PROTECTION REQUIREMENTS

- Categorization of physical protection objects.
- Categorization of premises, buildings, installations and sites.
- Categorization of nuclear facilities in general.

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CATEGORIZATION OF PHYSICAL PROTECTION OBJECTS

- Categorization of nuclear materials as a direct physical protection objects or as a part of physical protection objects.
- Categorization of possible consequences of unauthorized actions against physical protection objects.

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THREATS CATEGORIZATION

- Sources of threats.
- Model of the intruder.
- List of vulnerable elements of the nuclear facility and of physical protection objects.
- Possible threats of malicious acts against physical protection objects.

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CATEGORIZATION OF POSSIBLE CONSEQUENCES OF UNAUTHORIZED ACTIONS

- Analysis of probable scenarios of accident through unauthorized actions.
- Assessment of maximal releases of radionuclides from a nuclear facility or from a nuclear material storage.

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CATEGORIZATION OF POSSIBLE CONSEQUENCES OF UNAUTHORIZED ACTIONS

- Forecasting of areas, within which people could be exposed to radiation or to other hazards through unauthorized actions, taking into account the operating radiation safety rules.
- Assessment of the possible number of victims as a result of a terrorist attack.

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OTHER CATEGORIZATIONS

- Category of nuclear material.
- Level of sensitivity of an physical protection object.

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CATEGORIES OF NUCLEAR FACILITIES

Category I:nuclear facilities with nuclear material of category A.

Category II: nuclear facilities with nuclear material of category B but which aren't related to category I.

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CATEGORIES OF NUCLEAR FACILITIES

Category III: nuclear facilities with nuclear material of categories C or D, but which aren't related to category I or II.

Category IV: nuclear facilities with nuclear material of category E, but which aren't related to categories I thru III.

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FACTORS FOR CONSIDERATIONS

- Proximity to other hazardous facilities, big settlements, state borders, etc.
- Number of nuclear facility personnel responsible for it’s operation.
- Other particular features of nuclear facilities that could influence requirements specified for physical protection systems.

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ANALYSIS OF PHYSICAL PROTECTION SYSTEMS

- State inspections, Rosatom inspections and self estimate of physical protection.
- Results of the nuclear facility management and guard's forces exercises to check their interaction almost in «real» conditions.
- Assessment of efficiency of physical protection systems.

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REASONS OF PHYSICAL PROTECTION SYSTEMS ASSESSMENT

- Planned changes concerning as follows:
- ✓ changes of physical protection elements locations;
- ✓ changes of physical protection objects;
- ✓ changes of security conception;
- ✓ changes of guards number, etc.

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REASONS OF PHYSICAL PROTECTION SYSTEMS ASSESSMENT

- As a result of analysis of nuclear facility vulnerability.
- As a result of detection of new threats for a nuclear facility.
- In case of technological operations changes at a nuclear facility.
- As a result of state inspections, Rosatom and local control.

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REASONS OF PHYSICAL PROTECTION SYSTEMS ASSESSMENT

- As a result of accidents, man-caused catastrophes or natural disasters that influenced facility protection level.
- As a result of other reasons having direct or indirect impact on capability of physical protection systems.

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RISK OF IMPACT

- radiation,
- thermal,
- chemical,
- mechanical,
- microbiological,
- environmental, etc

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DISTRIBUTION OF LIABILITY AT THE DEVELOPMENT STAGE

- Structural designers.
- Developers of technologies.
- Developers of radiation safety methods.
- Developers of nuclear safety methods.
- Developers of physical protection systems.

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DISTRIBUTION OF LIABILITY AMONG SECURITY AND SAFETY REPRESANTATIVES

- Customers of security methods.
- Developers of security methods.
- Users of security methods.
- Assessors of security methods.

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DISTRIBUTION OF LIABILITY AT THE OPERATION STAGE

- Users of security methods.
- Facility security services.
- Facility guards.
- Enforce units from other ministries and agencies.
- Authorized control agencies (local, ROSATOM, and governmental).
- Other organizations responsible for nuclear security.

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