

International Conference on Physical Protection of Nuclear Material and Nuclear Facilities

Vienna, Austria | 13 – 17 November 2017



Regulatory oversight and control of the physical protection of nuclear materials and nuclear facilities and compliance with the requirements of the Convention on the Physical Protection of Nuclear Material and its Amendment

Republic of Azerbaijan

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Introduction

- Today in the Republic of Azerbaijan there are no nuclear installations and waste management facilities of the nuclear fuel cycle, as well as no extraction and processing of uranium ores are carried out;
- Radioactive sources, as well as nuclear materials available in the territory of the Republic of Azerbaijan, are mainly used in the oil and chemical industry, research institutes and medical facilities;
- About 80% of all radiological facilities are concentrated in the territory of the capital of the Republic of Azerbaijan and Absheron Peninsula;
- At the same time, Azerbaijan's economic development is aimed at expanding of all economically and technologically profitable economy fields, industry and energy, including the creation and implementation of technologies for long-term energy independence of the country, such as use of alternative energy sources, as well as the peaceful use of nuclear technologies. In addition, the Government of the Republic of Azerbaijan pays much attention to creation of necessary facilities and the required base for scientific research in the field of peaceful use of nuclear technologies and coverage of domestic needs for use of radioactive sources and radiopharmaceuticals.

The main types of the nuclear materials existing in the Republic of Azerbaijan



Biological shielding of medical gamma-radiotherapy equipment;



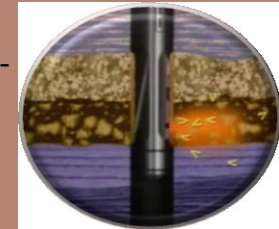
Biological shielding of industrial gamma-radiography devices;



Low activity calibration and control sources, as well as solutions used for contrasting in electron microscopy, containing radionuclides which are also classified as nuclear materials;



Pu/Be neutron sources for well-logging activities in the oil and gas industry, etc.



There are also various types of radioactive waste containing small amount of nuclear material.

Use of ionizing radiation sources in Azerbaijan



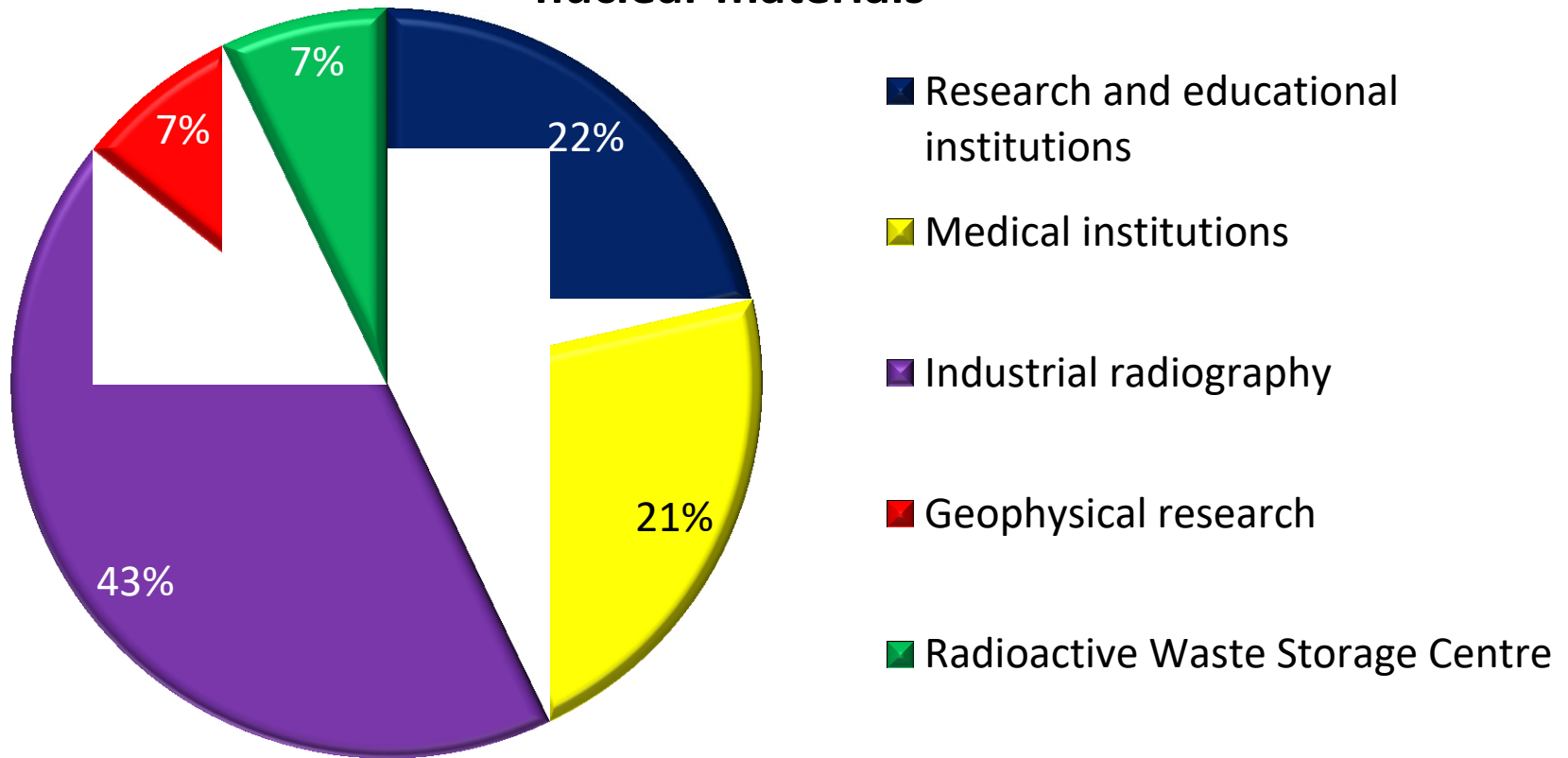
- Oil industry
- Industry
- Geology
- Construction
- Medicine
- Aviation
- Scientific Research
- Education
- Security



Types of practical activities involving nuclear materials



Chart showing distribution by types of facilities using nuclear materials

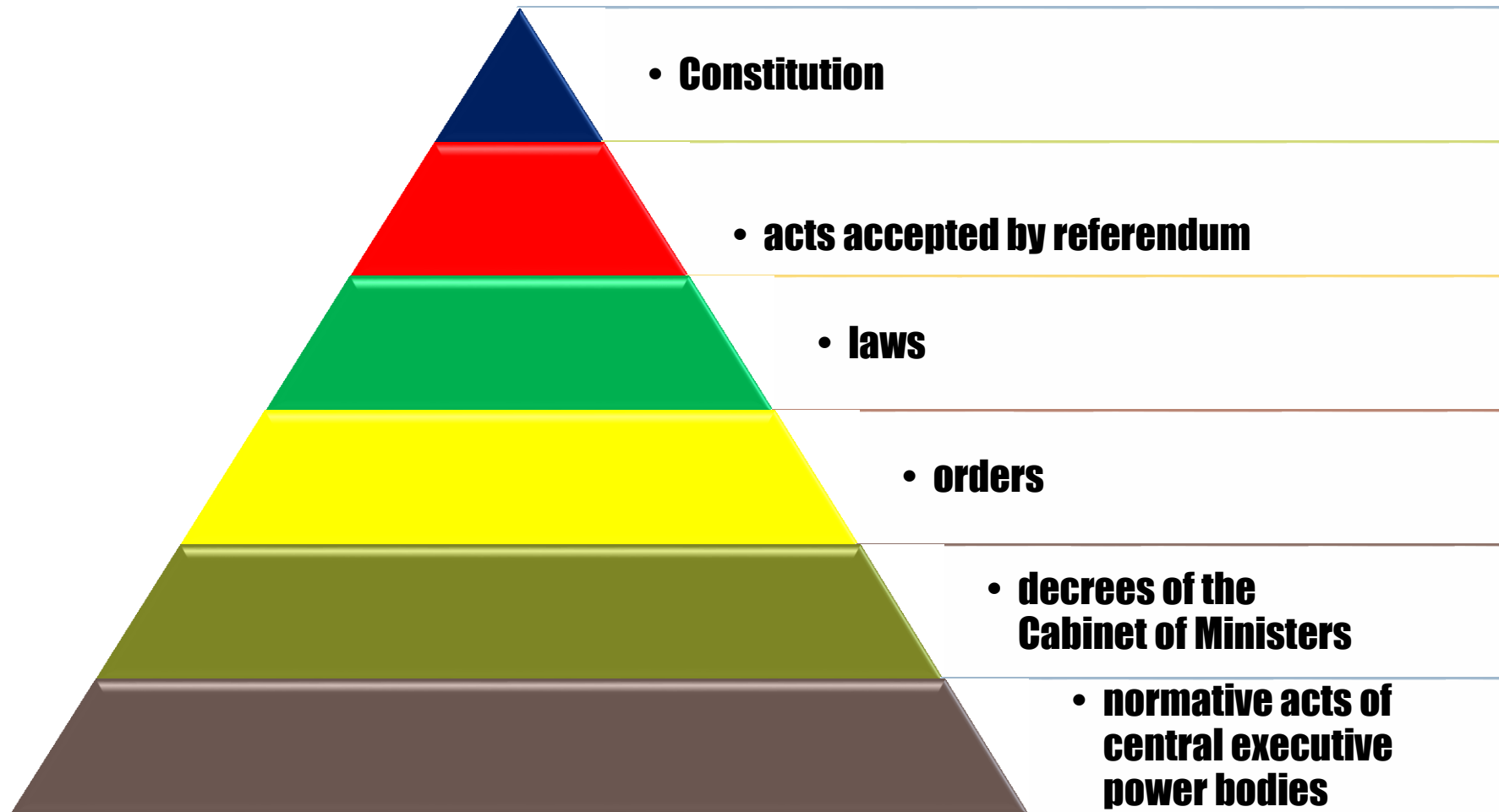


The Legislative system and regulatory framework



Article 148 of the Constitution of the Republic of Azerbaijan

I. Acts constituting legislative system of the Republic of Azerbaijan:



The Legislative system and regulatory framework (cont.)



According to the Constitution of the Republic of Azerbaijan, the international agreements, wherein the Republic of Azerbaijan is one of the parties, constitute an integral part of the legislative system of the country and whenever there is disagreement between normative-legal acts in legislative system of the Republic of Azerbaijan (except Constitution and acts accepted by referendum) and international agreements, wherein the Republic of Azerbaijan is one of the parties, provisions of international agreements shall dominate.

On 09 December 2003 President of the Republic of Azerbaijan signed the Law No. 547-IIQ "On Joining to the Convention on the Physical Protection of Nuclear Materials" based on decision of Milli Mejlis. On 18 March 2016 the Republic of Azerbaijan was officially joined to the 2005 Amendment to the Convention on Physical Protection of Nuclear Materials by the decision of Milli Mejlis and Law No. 178-VQ, signed by the President of the Republic of Azerbaijan with the special declaration related to its territories occupied by Armenia. The Republic of Azerbaijan declared that it is unable to guarantee the implementation of the provisions of the Convention on Physical Protection of Nuclear Material and the Amendment to the Convention on the Physical Protection of Nuclear Material in its occupied territories, until the liberation of those territories from the occupation and complete elimination of the consequences of that occupation.

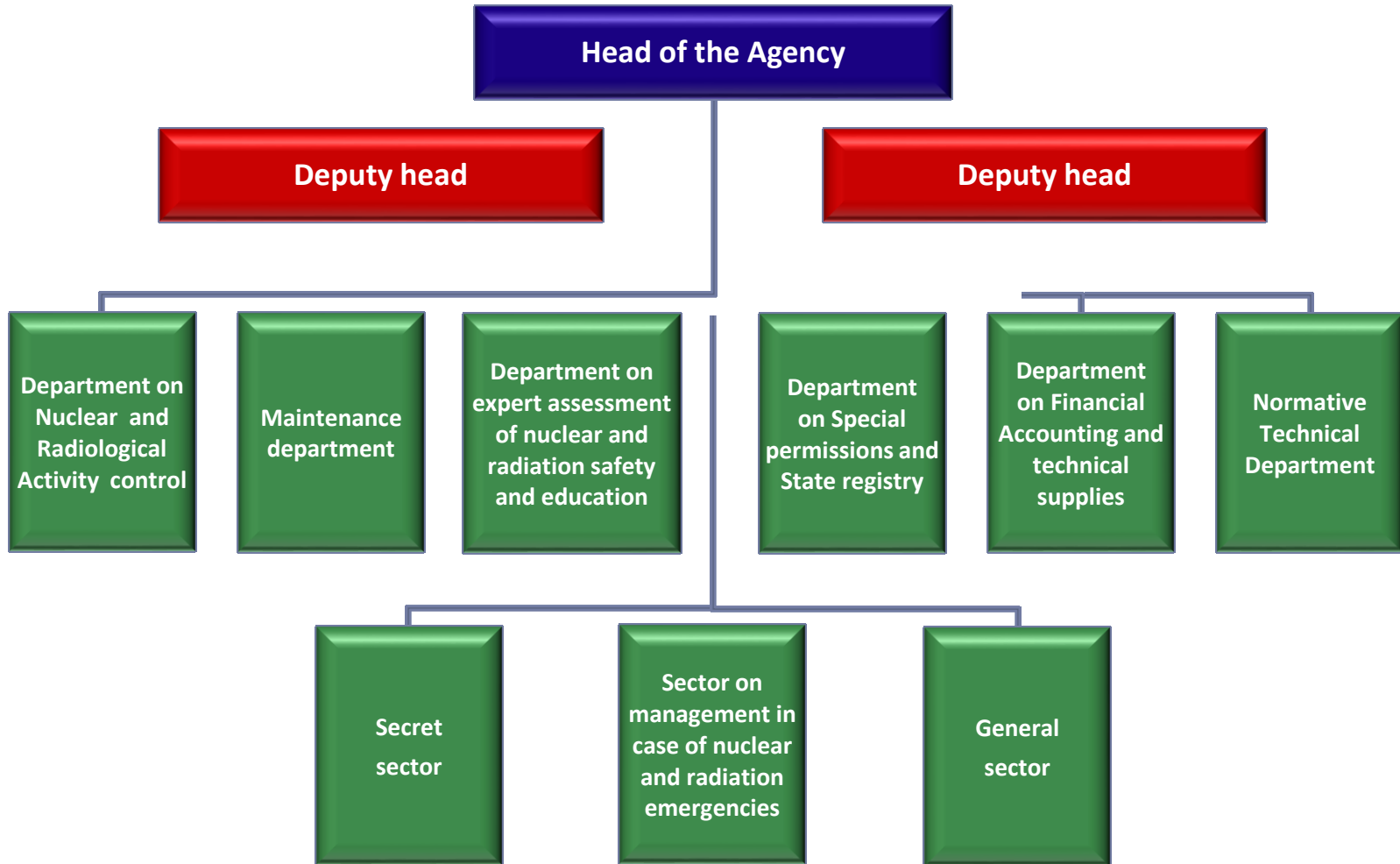


Creation of the Regulatory Body

On April 24 in 2008 the President of the Republic of Azerbaijan signed a decree on the establishment of a single regulatory body in the field of radiation protection and nuclear security, the State Agency on Nuclear and Radiological Activity Regulation (SANRAR) under the Ministry of Emergency Situations (MES) of the Republic of Azerbaijan. The SANRAR is funded from the state budget. On April 3, 2009 the President of the Republic of Azerbaijan approved the Statute of SANRAR. At the same time, the organizational structure of SANRAR was approved by the Order of the Minister of Emergency Situations and in 2013 this structure has been modified. The Statute of SANRAR in significant extent reflects BSS requirements.

According to its Statute, the supervision on compliance with radiation safety and physical protection requirements at facilities and organizations involved in nuclear and radiological activities is included in the main responsibilities of SANRAR. The SANRAR of MES have rights to make decision on granting or denying permissions for radiological activities, to carry out inspections and to verify implementation of regulatory requirements, to make decisions and provide opinions on authorization of export/import activity and to carry out other regulatory functions. The requirements and recommendations of IAEA Safety Standards Series, as well as appropriate obligations under the international and bilateral agreements and conventions are followed by SANRAR and implemented to the possible extent.

Regulatory body: Organizational structure





SANRAR activities

The main activities of SANRAR are as follows:

- ▶ Development and improvement of legislative framework (laws, regulations, guides etc.);
- ▶ Inventory control of ionizing radiation sources, nuclear materials and facilities (including nuclear installations);
- ▶ Authorization of nuclear and radiological activities and related facilities;
- ▶ Supervision and control on implementation and compliance to the law, regulations and other rules' requirements on nuclear and radiation safety and security (inspection);
- ▶ Enforcement;
- ▶ Coordination of emergency response and preparedness;
- ▶ Participating in authorization and control of export/import of nuclear and radioactive materials;
- ▶ Review and assessment of radiation protection and nuclear security;
- ▶ Preparation and submission of appropriate reports under the safeguards obligations and other international requirements, etc.

Development and improvement of the legislative framework



Today the Republic of Azerbaijan pays much attention to the strengthening of the legal framework and regulatory infrastructure in all areas of the safety and security. This tendency is directed, among other things, to the definition of requirements in the field of ensuring the nuclear security and physical protection of potentially dangerous and specialized facilities and nuclear materials.

Thus, the Cabinet of Ministers' decree dated April 4, 2016 approved the Special Construction Standards aimed to the determining of the physical security methods for buildings, premises and elements of fence structures along the perimeter of the relevant facilities, as well as rules and parameters for equipping these facilities with the engineering structures and security systems. According to the categorization given in these standards, the objects of the nuclear power complex are assigned to the 1st category, and the facilities engaged in the manufacture, production or storage of radioactive substances in the 2nd category in accordance to the requirements for equipping with the physical protection and security systems.

Development and improvement of the legislative framework (cont.)



In 2012 in the Republic of Azerbaijan was started the Twinning Project on ‘Strengthening of Radiation Safety Infrastructure and Development of Supporting Services of the Republic of Azerbaijan’, which was funded by the European Union. SANRAR was appointed as a beneficiary organization of this project. The overall objective of the Project was to increase the surveillance of exposures from ionizing radiation in the Republic of Azerbaijan and to enhance the energy policy convergence in the field of control of all types of radiation sources and nuclear materials.

The project aimed to support for development of radiation safety and nuclear security primary legal framework and to enhance radiation safety culture, relevant infrastructure and supporting services in accordance with the best available EU practices/legislation as well as international guidance. A draft of the new Law on Radiation Protection and Nuclear Security was prepared in the framework of this Twinning Project.



Development and improvement of the legislative framework (cont.)



One of the main purposes of the draft Law is closely related to establishing a legal framework for the physical protection of nuclear materials in accordance with obligations under the international treaties and agreements to which the Republic of Azerbaijan is a party.

Special requirements and provisions related to the nuclear security and physical protection of radioactive sources, nuclear materials, nuclear and radioactive wastes and installations were established in Chapter 7 of the draft Law. IAEA recommendations and international practices, as well as relevant IAEA Guidelines and international conventions, including the provisions of the 2005 Amendment to the Convention on the Physical Protection of Nuclear Material, were taken into account during the process of drafting. The adoption of this law will further strengthen national nuclear security regime.



Notification and inventory of ionizing radiation sources, nuclear materials and facilities



According to the requirements of the Cabinet of Ministers' Decision "On measures to strengthen control on radiation safety in the Republic of Azerbaijan" # 76 dated July 11, 1997 all ministries, committees, companies, corporations, associations, institutions and organizations should conduct an annual inventory of radioactive substances and other ionizing radiation sources and systematically submit the annual inventory results to the Ministry of Emergency Situations no later than December 15th of each year. The same obligations on accounting of ionizing radiation sources (including nuclear materials), radioisotope equipment and gauges and providing the relevant inventory acts to the Regulatory Body are required by the "Statute on rules for the state monitoring of environment and natural resources" approved by Decree of the Cabinet of Ministers #90, dated July 01, 2004.

According to its Statute approved by Decree of the President of the Republic of Azerbaijan #74 dated April 03 of 2009, ensuring of improvement of oversight and control systems on nuclear and radioactive materials and other ionizing radiation sources, creation of their database and conduction of accounting and State Registry was included in obligations of SANRAR.

Notification and inventory of ionizing radiation sources, nuclear materials and facilities (cont.)



SANRAR has prepared and approved the forms for recording and submission of annual inventory data on ionizing radiation generators, radioactive sources and radioisotope equipment. Inventory and the forms for submission of inventory results of nuclear materials are carried out in accordance to the IAEA requirements and recommendations. All obtained information is verified and entered into a created in SANRAR electronic database, and regularly updated.

Forma № 1

1. Həqiqi şəxs (Müvəhin/Təhlikə):
 adı: _____
 soyadı: _____
 ünvanı: _____
 telefon: (kod da daxil olmaqla) _____

2. Həqiqi şəxs yaratmadan sahibkarlıq fəaliyyəti ilə məşğul olan fiziki şəxs:
 adı: _____
 soyadı: _____
 ünvanı: _____
 telefon: (kod da daxil olmaqla) _____

3. Təsərrüfatçı Orqan tərəfindən verilmis "Xüsusi icazə":
 qüvvədədir: _____
 tarixi: _____

4. Radioaktiv mənbələrin/radioaktiv mənbəli avadanlıqların (cihazların, qurğuların) yerləşdiyi obyektin:
 adı: _____
 ünvanı: _____
 telefon: (kod da daxil olmaqla) _____

5. Radioaktiv mənbələr (RMM) və radioaktiv mənbəli avadanlıqlardan (cihazlardan, qurğulardan) istifadə məqsədi:
 adı: _____
 soyadı: _____
 ünvanı: _____
 telefon: _____
 radiasiya təhlükəsizliyinə cavabdeh şəxs: _____ və tərtibi (gün-günə) _____

7. İstəyinizə uyğun olaraq mənbələrin (RMM) inventarizasiyasına əid əki*:

8. Radioaktiv mənbələr (RMM) və radioaktiv mənbəli avadanlıqlar (cihazlar, qurğular) haqqında illik inventarizasiya məlumatları:

Radioaktiv mənbəli avadanlıq (cihaz, qurğu)											Radioaktiv mənbə							
Sən Növü	Adı	Mənbə Tipi	Səyq. Zərəş Əhəmiyyəti	həqiqi illik və mənbə	həqiqi illik (gün - ay - il)	həqiqi illik (gün - ay - il)	həqiqi illik (gün - ay - il)	həqiqi illik (gün - ay - il)	həqiqi illik (gün - ay - il)	həqiqi illik (gün - ay - il)	həqiqi illik (gün - ay - il)	həqiqi illik (gün - ay - il)	həqiqi illik (gün - ay - il)	həqiqi illik (gün - ay - il)	həqiqi illik (gün - ay - il)	həqiqi illik (gün - ay - il)	həqiqi illik (gün - ay - il)	həqiqi illik (gün - ay - il)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38

(Müəssisə təqdimatçı rəhbərliyinin fiziki şəxsin adı, soyadı) (müddət) (Müddət/gün-ay-il)

(Radiasiya təhlükəsizliyinə cavabdeh şəxsin adı, soyadı) (müddət) (Səyq. Zərəş Əhəmiyyəti)

* Müəssisənin "Təhlükəsizlik (radioloji obyektində) İFİM-nin müvafiq fəkriki nişanlarının təyin edilməsi, sonradan həmin İFİM vəhədlərinin qəbulu sənədli (ya tutuqdurulmuş) məqsətlərlə müəssisənin təhlükəsizliyinə cavabdeh şəxsinin məlumatlandırılması, sonradan həmin İFİM vəhədlərinin qəbulu sənədli (ya tutuqdurulmuş) məqsətlərlə müəssisənin təhlükəsizliyinə cavabdeh şəxsinin məlumatlandırılması"

Notification and inventory of ionizing radiation sources, nuclear materials and facilities (cont.)



All inventory data is kept in the following separate databases:

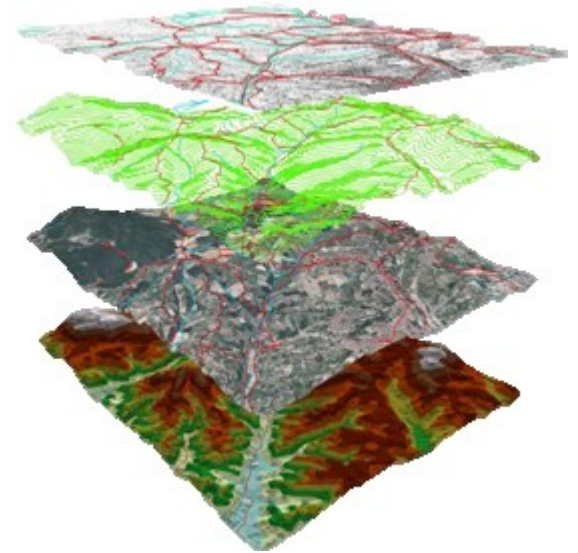
- Database of radioactive sources and radioisotope devices;
- Database of ionizing radiation generators; and
- Database of nuclear materials.

The Regulatory Body periodically carries out physical inventory of ionizing radiation sources and nuclear materials during inspections and rechecks the received information. Inventory of nuclear materials is maintained in SANRAR and periodical reports are sent to the Safeguards Department of IAEA, according to the Protocol Additional to IAEA Safeguards Agreement.

New electronic portal for accounting and control of materials and facilities



- ▶ A new electronic intranet information system for accounting and control of objects - Object Passport System (OPS) - was developed on the base of the order of the Ministry of Emergency Situations and will be put into operation in the near future. This software provides different degrees of access for the relevant regulatory authority persons, depending on their work position and working requirements.
- In case of radiological activities an ionizing radiation source and/or nuclear material is considered as an object in this system and all other related information will be connected to this object. OPS will be also integrated into the Geographic Information System (GIS), so that all information will be geocoded, which will allow us to obtain information about geographical location of the source and will facilitate rapid assessment of risks in case of emergencies and natural disasters. The system will also reduce the time to identify source owners in case of orphan source discovery.



Authorization of nuclear and radiological activities and related facilities



At present the MES (SANRAR) issues a special permission as a state official document for all activities associated with the use of radioactive and nuclear materials and exploitation of radiation hazardous facilities.

The Law of the Republic of Azerbaijan 'On Licenses and permissions' and the Presidential Decree No 758 'On application of the Law of the Republic of Azerbaijan On Radiation Safety of Population' dated August 19, 1998 requires that any legal or physical person intending to be engaged in any practical activities or to go in possession of any ionizing radiation source (including nuclear materials) should address to the Regulatory Body for issuing a Special Permission and submit appropriate documents.



Authorization of nuclear and radiological activities and related facilities (cont.)



The Rules for issuing of a Special Permission for the relevant types of activities are defined by the Resolution of the Cabinet of Ministers of the Republic of Azerbaijan No 42 (12.04.2004). According to the mentioned, any legal or physical person applying for a Special Permission should provide the necessary information for substantiation of submitted application, according to the list, authorized by the Resolution No.42.

Information on physical protection of installations, radioactive and nuclear materials storage facilities, radioactive waste storage facilities, as well as on measures to prevent unauthorized persons from accessing to the radiation-hazardous and controlled areas, also information related to the persons designated as responsible, is one of the necessary documents to apply for obtaining of the special permission.



Supervision and control

SANRAR makes the first inspection as a part of the process for granting of the Special Permission and then carries out regular inspections periodically. Methodology of inspection is based on international practices and IAEA recommendations, in which the procedure for the inspection from its initiation until the final conclusion of the inspection is defined, including check-lists for conducting an inspection, as well as on the follow-up of remedial actions.

All organizations performing practical activities related to use of ionizing radiation sources according to the risk level are divided into three groups of risk:

- High (inspections each year);
- Medium (inspections every 2 years); and
- Low (inspections every 3 years).

The Risk-based Oversight and implemented risk assessment system helps to systemize of conducted inspections. Schedule of the planned inspections should be approved on November of each year by the Head of SANRAR and submitted accordingly to the electronic system maintained by the Ministry of Justice, and this information is made available for the inspected party. Results of each inspection and taken measures should be also reflected at the same electronic system.



Enforcement

SANRAR has rights to apply enforcement measures. The articles 235 and 268 of the Code of Administrative Offences may be used by SANRAR to apply the relevant sanction measures.

The Criminal Code of the Republic of Azerbaijan foresees criminal penalties for illicit trafficking of radioactive substances, nuclear weapons, materials and equipment, as well as illegal handling, theft and illegal obtaining of any radioactive materials etc. SANRAR has rights to provide the collected information and documentation to authorities of the relevant executive power, if violations, which can be considered in accordance with the Criminal Code of the Republic of Azerbaijan as crime, have been discovered.

Coordination of emergency response and preparedness



In the frame of IAEA National TC Project AZB/9/006 ‘Supporting the Preparation of the National Radiological Emergency Plan (NREP)’ by employees of SANRAR was elaborated the draft of the National Radiological Emergency Plan (NREP), which clearly outlines the roles and responsibilities of all organizations involved in the preparedness and response phases during nuclear and radiological emergency situations.

The draft of the national radiation emergency plan provides for integration with the responses of other organizations during emergencies involving a combination of actual and perceived radiation hazards. The draft plan describes concepts of operations, and roles and responsibilities of all responding organizations, and their relationships with each other, summarizing more detailed plans and ensuring that all the other planning is integrated and compatible.



Export/import control

According to the Presidential Decree 'On further liberalization of foreign trade in the Republic of Azerbaijan' No 609 (24.06.1997) and the Law of the Republic of Azerbaijan 'On export control' No 230 (15.12.2005) - all nuclear materials, technologies, equipment and facilities, special non-nuclear materials and radioactive sources are subject to export control.

Import, export and transit of radioactive and nuclear materials should be realized based on the permissions issued by the Cabinet of Ministers after the positive resolutions of MES SANRAR and other associated organizations.

There are national legislative acts, which define rules for authorization and control of export, import and transit of materials subject to export control, as well as rules for transportation of dangerous goods.



Preventing Nuclear Smuggling

In the face of emerging proliferation threats and due to its geographic location, the Republic of Azerbaijan attaches utmost importance to the prevention of possible use of its territory as a transit route for illicit nuclear trafficking. In close cooperation with international partners, the Republic of Azerbaijan has developed a comprehensive national export control system with a solid legislation basis in line with international standards.

The Republic of Azerbaijan closely participates in international cooperation programs. The United States Department of Energy's Second Line Defence Program and Global Threat Reduction Initiative can be shown as examples of such cooperation. Good progress has been made in the field of nuclear security within the framework of both programs, which were started in 2003:

- ▶ Strengthening of physical protection of nuclear and radioactive materials in the Republic of Azerbaijan;
- ▶ Search and Secure of Orphan Sources; and
- ▶ Strengthening capabilities at borders (Border Services and State Customs Committee) to detect radioactive and nuclear materials and prevent illicit trafficking of such materials and technologies.

Preventing Nuclear Smuggling



Up to date, national export control system has proved itself as a reliable mechanism in preventing illicit nuclear trafficking. Number of portable radiation control devices and other detection capabilities at border crossing points were increased further by upgrading some checkpoints.

Unfortunately, due to the continued occupation of its territories, the Republic of Azerbaijan is unable to provide proper border control along the substantial part of its borders.



International cooperation

Recognizing and commending the key role of the IAEA in developing nuclear security regulations and standards, the Republic of Azerbaijan as a member state continues to maintain a successful cooperation with the Agency on various aspects of nuclear security. The Republic of Azerbaijan participates in international information sharing on illicit trafficking issues through contribution to the IAEA Incident and Trafficking Database.

Within the IAEA Technical Cooperation Programme, in 2015 the Republic of Azerbaijan and the IAEA signed a Country Programme Framework document for 2015-2020, which establishes a basis for national projects in the area of improvement of the regulatory and legislative infrastructure, capabilities in radiation safety, security of nuclear materials, radioactive waste management, as well as in radiation monitoring and control of border and customs check points.



International cooperation

The Republic of Azerbaijan also welcomes the efforts of the United Nations for strengthening nuclear security. In this regard, ensuring full implementation of Security Council Resolution 1540 and subsequent resolutions plays an important role in prevention proliferation of nuclear, chemical and biological weapons, as well as their means of delivery.

Ever since the Republic of Azerbaijan became a partner country to the Global Initiative to Counter Nuclear Terrorism (GICNT), representatives and national experts of the country have been actively participating in GICNT events and thematic exercises. These forums provided an opportunity to share the measures that the Republic of Azerbaijan has undertaken in fulfilling its international obligations in the area of nuclear safety and security.

In addition, bilateral cooperation is being continued with partner countries in the field of combating illicit trafficking, non-proliferation and strengthening the regulatory infrastructure.

Thank you for your attention!



Atoms for Peace

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