

Radioactive Waste Management - Solutions for countries without nuclear power program

November 2-6, Trieste, Italy

RADIONUCLIDE CONTAMINATION ON THE ABSHERON PENINSULA IN AZERBAIJAN

NATIONAL POLICY ON RADIOACTIVE MATERIALS

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Azerbaijan

Azerbaijan has long been considered as one of the leading oil and gas producing nations. Currently, 35 leading oil companies, representing 15 nationalities, are involved in exploration in 22 areas in this country. In addition, Azerbaijan continues to serve as a hub for the transportation of hydrocarbon resources to international markets.

Two facts stand out: during 1901-1905, half of the world's oil was from Azerbaijan, mainly from wells on the Absheron Peninsula and these wells contributed 70% of the oil extracted in the former Soviet Union during World War II.



Absheron Peninsula

All processes associated with the oil and gas industry, including exploration, extraction, processing and transportation have resulted, and continue to result in environmental degradation. As a result, the Absheron Peninsula is one of most heavily contaminated regions in Azerbaijan. In addition to the NORM, resulting from the extraction of fossil fuels, Azerbaijan, including the Absheron Peninsula, is contaminated by fission products from neighboring countries and from fallout from nuclear explosions and nuclear reactor accidents.



However, even though these ecological problems have been recognized, no systematic study of the extent of radiological contamination has been undertaken until recently.

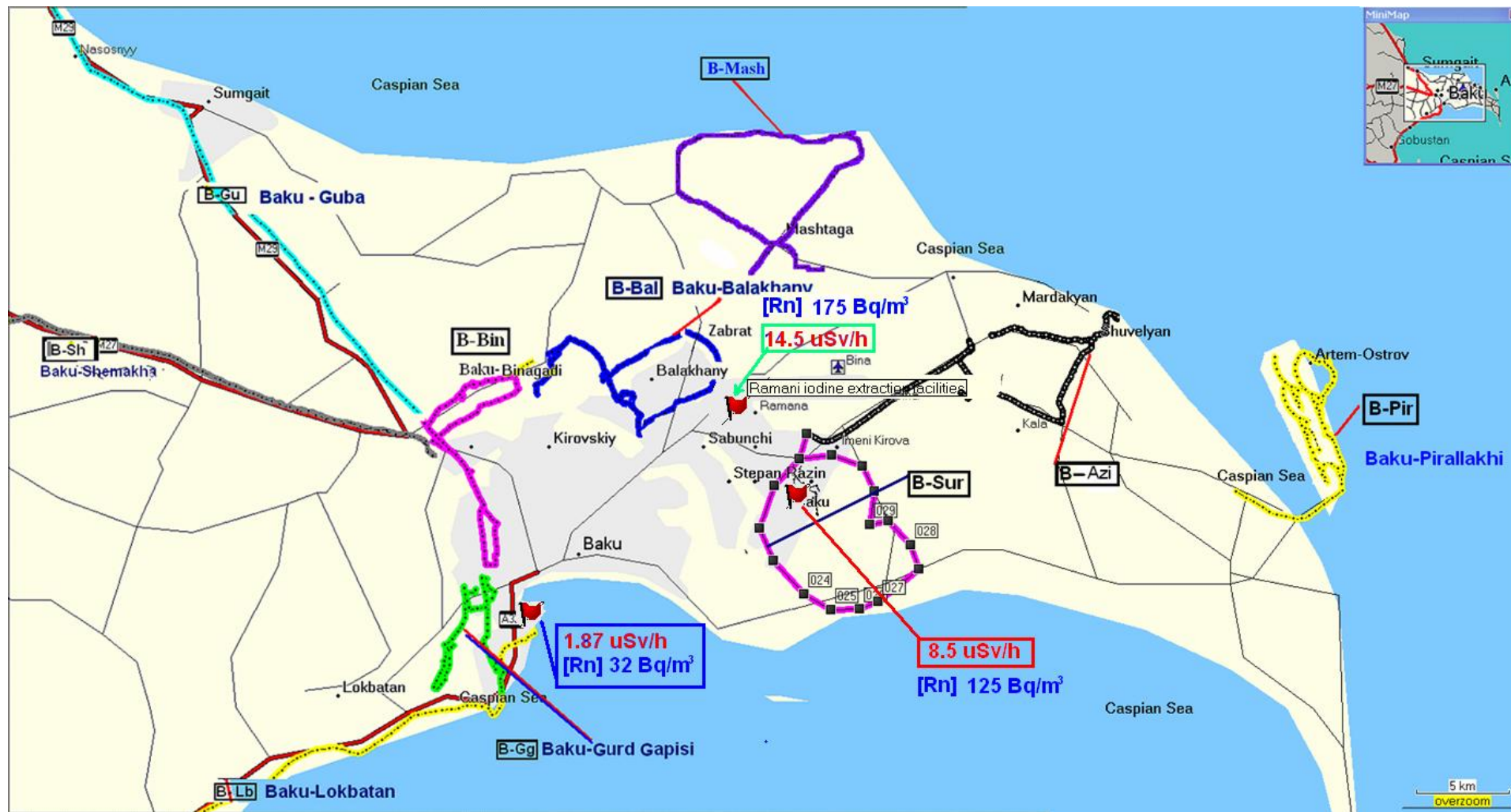


The ecological problems are especially important considering that the Absheron Peninsula is the most densely populated region of Azerbaijan with 40-50% of the population residing there. In recognition of this fact, the Government of Azerbaijan accepted more stringent environmental laws in 2008 and 2010 that will lead to increase in scientific investigations and remedial action.

With the purpose of investigation of these situations the 3-year Grant-Project (February 01, 2009 – January 31, 2012) was being executed in Baku State University of Azerbaijan. This project (№3998) **“Radioecological survey of the soil of the territory of Baku city of Absheron Peninsula”** is being administered by the Science and Technology Center in Ukraine (STCU, Kiev) and is being funded by the Government of Canada as part of the G8 Global Partnership Program through the Department of Foreign Affairs and International Trade.

The main purpose of this project is to perform radiometric surveys of soil, surface water, and marshy areas in the vicinity of Baku to: (1) identify sources of harmful radiation; (2) determine radionuclide composition and radioecological parameters, including activity, energy of radiation of these sources; and (3) estimate radioecological impact of the extent of the contamination.

Ten routes on the Absheron Peninsula were selected for dosimetric measurements. The routes and sites are covered a total of 542 km.



Location of Routes followed to obtain Dose Rate Measurements

Part of Baku Iodine plant





**Entrance to the Abandoned Iodine
Extraction Facility at Ramani**

**Oil wells and oil pipelines at
the Surakhani Site**





**Abandoned Iodine Extraction Facility
at Ramani. Discarded Charcoal visible
in the Foreground**

**Wastewater ponds at the
Surakhani Site**



Fields contaminated with Fuel oil and coil (Surakhani)



Fields contaminated with technogenic waste (Ramana)



IAEA representatives in Azerbaijan



Kristian Kunts, expert



A.S.Barinov, expert



Measurement of radiation background



Experts of Radiation Problems Institute

Observing the carrying and digging processes by IAEA representatives



Car cleaning



Loading contaminated soil to the trucks



Loading sacks



Loading soil to the sacks

Topographical plan of the preservation place for radioactive waste

Azərbaycan Respublikasının
Fövqəladə Hallar Nazirliyi



"ECOLAND" MMC

Şərti işarələr

Radioaktiv tullantıların baxdırılması
üçün nəzərdə tutulmuş ərazilər:

- S=12.6 ha
- "EcoLand" MMC
- "EcoLand" MMC ərazisi
- "EcoLand" MMC ərazisi
- "EcoLand" MMC ərazisi
- "EcoLand" MMC ərazisi
- "EcoLand" MMC ərazisi

Fövqəladə Hallar Nazirliyi "EcoLand" MMC	
Radioaktiv tullantıların baxdırılması üçün nəzərdə tutulmuş ərazilərin topografiya planı	
"EcoLand" MMC ərazisi	
Çizim №: 2024.11.10 Təsdiqlənmişdir Fövqəladə Hallar Nazirliyi	
QƏBUL	YAZI
10.11.2024	10.11.2024
10.11.2024	10.11.2024
10.11.2024	10.11.2024
10.11.2024	10.11.2024



Topographical plan of the preservation place for radioactive waste



Preparation of preservation place



Preparation of preservation place



Preparation of preservation place

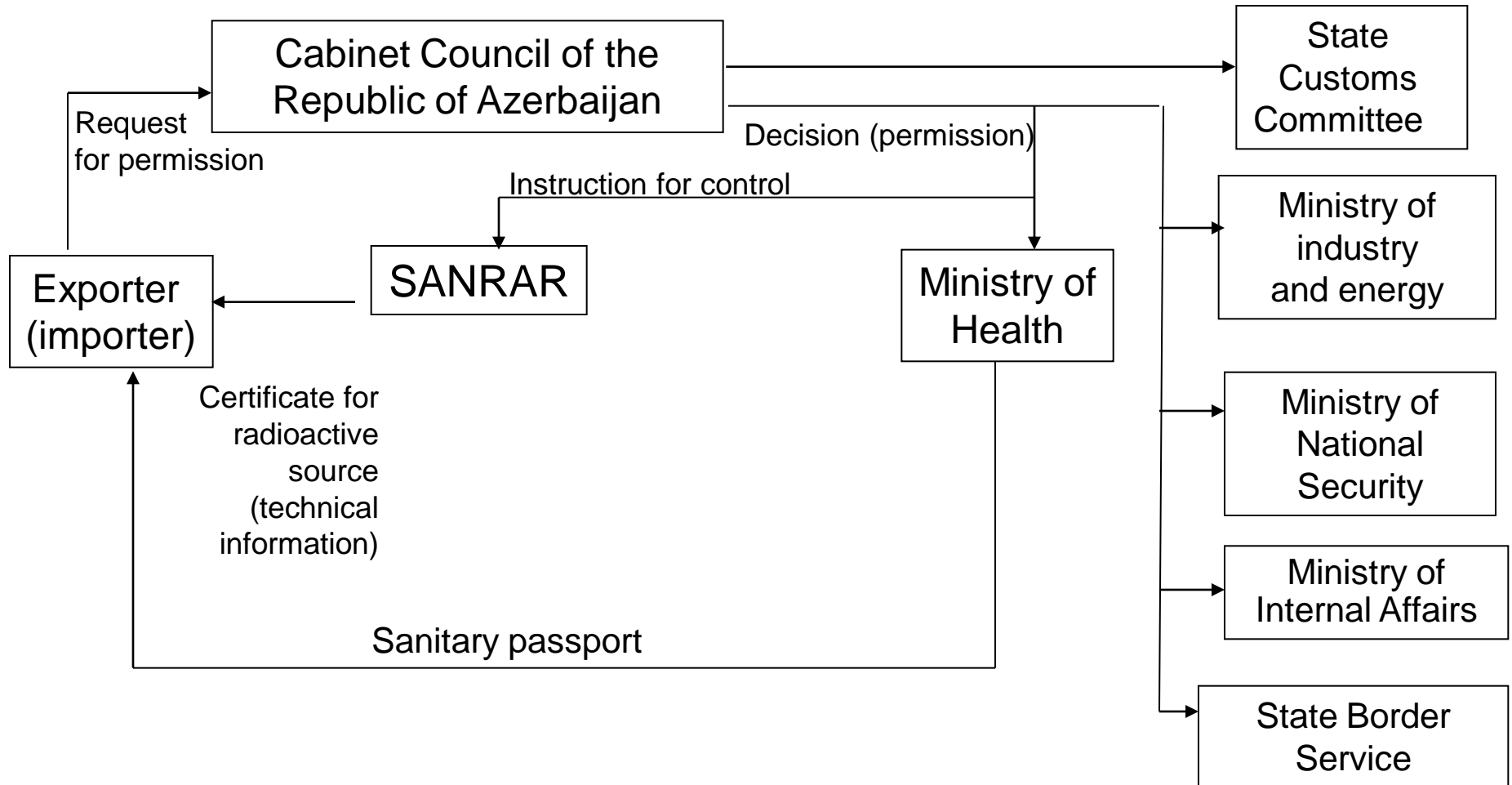


Radiation Infrastructure in the Republic of Azerbaijan

COMPETENT AUTHORITIES

- **The Cabinet of Ministers** is responsible for State control in the field of radiation safety. The Prime Minister signs authorizations to import of radioactive sources.
- **State Customs Committee and State Body Service** are responsible for prevention of illicit trafficking of radioactive materials across the borders of Azerbaijan and assures technical measures for the control at border control checkpoints.
- **Ministry of National Security** is the State authority that is responsible for physical protection of radioactive sources and nuclear materials, providing operational support by transfer of them and assuring measures for preventing illicit trafficking and any activities against the law with the radioactive sources and nuclear materials in the country.

Diagram on import (export) and transit of radioactive materials and ionizing sources in the Republic of Azerbaijan



Import (export) and transit of radioactive materials and ionizing sources in the Republic of Azerbaijan

- Import (export) and transit of radioactive materials and ionizing sources in the Republic of Azerbaijan is regulated by the decree of The President of the Republic of Azerbaijan No. 609 of June 24, 1997.
- Accordingly to this decree import (export) and transit above stated Items are realized only with special decision of the Cabinet of Ministers or Prime Minister, in case if he (she) is absent then first Deputy of Prime Minister has a right to give such permission.

Punishments are set in Criminal Code of the Republic of Azerbaijan for illegal use of radioactive materials

Article 226. Illegal use of radioactive materials

Article 227. Taking radioactive materials using brigandage or menace

**Thank you
for your
attention.**