

## Site (Structure) : Richard

Country: CZECH REPUBLIC

Reporting Year: 2013

Full Name: URAO Richard

Description:

Official Website:

License Holder(s): Previously owned and operated by the power generation company CEZ,plc., on Jan 1st 2000 transferred under the management of the state organization - the Radioactive Waste Repository Authority (RAWRA | SURAO).

Comment # 380: Information

Abandoned mine Richard ( 60 km N of Prague) serves as repository for radioactive waste from research, industry and medicine.

Comment # 14555: Site Richard

In 2006 and 2007 disposal chambers 8/2, 9 a 12 were upgraded (hydraulic cage) and filled with waste. New concrete floor was laid down in chambers 13 and 22 and these chambers will be used for the disposal of waste.

Comment # 26994: Institutional Framework

The Radioactive Waste Repository Authority's mission is to ensure safe disposal of existing and future radioactive waste (RAW) in the Czech Republic and to safeguard the requirements for the protection of human health and the environment from the adverse impacts of such waste. RAWRA works in active and open co-operation with the local communities and municipalities in the vicinity of which repositories are located, as well as with the general public represented by non-governmental environmental organizations, civic associations, etc. RAWRA provides the general public with objective and complete information concerning its activities and intentions.

Waste management facilities that are located at this site:

<b>Facility:</b>	<b>URAO R</b>
<b>Description:</b>	The repository is used to dispose of particularly RAW containing artificial radionuclides. Separately from the disposed RAW there are also stored RAW, which cannot be currently disposed and wait to be disposed in a suitable repository.
<b>Detailed Facility Description:</b>	The facility consists of twenty mined cavities of various dimensions with capacity ranging from 77 m <sup>3</sup> up to 1200 m <sup>3</sup> .  The engineered barriers presently do not exist.  As an access route serves a standard tunnel (Fig. on the right) with concrete lagging of a semicircular profile to enable the waste transport. The communication route is 6 - 8 m wide and 4 - 5 m high. The individual storage rooms are accessible from the communication route.
<b>Waste Packages:</b>	The overwhelming majority of waste disposed until 1975 is deposited in drums (usually of 60-litre which are galvanized or coated with anticorrosive asphalt paint). Since 1975 packages consist mainly of galvanized 100-liter drums which are subsequently loaded into 200-litre drums (overpacks). The space between the two drums is then filled with concrete thus forming a 5-cm thick concrete protective covering for each drum. Both the inner and outer surfaces of the overpack are galvanized, the outer surface is coated with bitumen to prevent corrosion.  RAW repository Richard is designed for disposal of institutional wastes, and its waste acceptance criteria include radiation, physical, mechanical, chemical and administrative requirements.  Currently 6260 m <sup>3</sup> of the estimated waste capacity of 8300 m <sup>3</sup> is filled by 2570 m <sup>3</sup> of RAW.
<b>Facility Operation:</b>	

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The repository is operated in a standard manner in agreement with the operating regulations, with the limits and conditions for safe operation with the acceptability conditions. Current maintenance is performed in the underground part of the mine and in the surface facilities. The individual packages are disposed in disposal chambers. After filling the cavity, the space is closed with steel grids to assure perfect ventilation and to prevent access of unauthorized persons.

Individual packages are stored to maximize utilization of the space in the individual cavities, in 5 layers (from the viewpoint of strength capacity up to 8 layers may be stacked without damage of the bottom layer of the packages).

Closure of the repository is expected in 2070. It is anticipated that disposal rooms and access tunnels will be filled with a mixture based on cements or clayey sealing material. Institutional control is anticipated for a period of 300 years after the operation is terminated.

**Financing:** Activities are financed from the nuclear account, which collects payments by the radioactive waste producers; the nuclear account is administered by the Ministry of Finance.

**Storage part of facility****URAO R**

The following shows storage status for waste classes and SRS.

Waste Class	Actual	Planned
TRW	No	No
LILW-SL	Yes	No
LILW-LL	Yes	No
HLW	No	No

List SRS?	Yes
List UMMT?	No

**Capacity:**

## Types of Storage Units

Storage Unit Name	Type Name	Year Opened	Closed?	Full?	Modular?	Contains SRS?
komora	cave	1964	No	No	No	Yes

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**Disposal part of facility****URAO R**

The following shows disposal status for waste classes and SRS.

Waste Class	Actual	Planned
TRW	No	No
LILW-SL	Yes	No
LILW-LL	No	No
HLW	No	No

List SRS?	Yes
List UMMT?	No

Type:	engineered near surface		
Facility is modular?	No		
Capacity existing (m3):	8400	Capacity planned (m3):	8400

Depth (m):	30-60	Host medium:	sedimentary (other)
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Phase Name	Start Year	End Year	Estimate
planning and/or concept assessment	1961	0	False
site selection		1961	False
design	1961	0	False
construction		1962	False
commissioning	1964	0	False
operation	1964	2070	False
closure	2070	0	True
ACTIVITY: upgrading	2006	2007	False

Comment **# 9799: Calculation of used repository capacity**

From the total volume of 17 050 m3 of only 8400 m3 can be used for disposal of RAW. At the end of 2004 about 6260 m3 of RAW, at the end of 2006 about 6478 m3 of RAW and at the end of 2007 about 7300 m3 were disposed.