

# ***Annual Report*** *2004*



**Radioactive Waste  
Repository Authority**

## **RAWRA's Mission**

The Radioactive Waste Repository Authority (RAWRA) is a state organisation established under the provisions of Article 26 of Act No. 18/1997 Coll., on the peaceful uses of nuclear energy and ionising radiation (the Atomic Act) and on amendments to certain other Acts. RAWRA's mission is to ensure the safe disposal of existing and future radioactive waste, in compliance with the requirements of nuclear safety and human and environmental protection.

## **Table of Contents:**

Managing Director's Introduction	2
RAWRA's Board	4
Current Situation in Radioactive Waste Management	6
Operation of the Dukovany Repository	7
Operation of the Richard and Bratrství Repository	8
Development of a Deep Geological Repository	11
Managerial, Technical, Legal and Administrative Matters	18
Financial Management	26
Auditors' Report	28
Organisational Chart	30
Contacts	32

## Managing Director's Introduction



During 2004, the Radioactive Waste Repository Authority (RAWRA) provided for the safe management of low-level and intermediate-level waste in the Czech Republic, thus successfully fulfilling its statutory obligations. The operation of the Czech repositories for the disposal of low-level and intermediate-level radioactive waste at Dukovany, Richard and Bratrství was undertaken in compliance with the relevant limits and conditions of the State Office for Nuclear Safety. Preparations for the sealing of an emplacement chamber at the Richard repository commenced as part of the Phare and Transition Facility programmes, as well as work on the reconstruction of the

hot chamber and test laboratory for the testing of transport waste containers. The clean-up of the so-called radium line was completed at the Richard repository in the second half of 2004, in conjunction with the National Property Fund. Nuclear safety, radiation protection, physical protection, emergency preparedness and the maintenance of buildings, machinery and equipment were ensured at all the repositories in operation.

RAWRA continued to push ahead with the project for a deep geological repository for the disposal of high-level radioactive waste and spent nuclear fuel by narrowing down the number of potential sites. A geological survey of the whole of the Czech Republic was completed and the results were analysed according to clearly defined criteria. Six potentially suitable locations were subjected to further assessment and detailed measurement. Basic geophysical measurements were taken at the six sites aimed at improving the accuracy of the geological information obtained. This information will assist in the planning of future, more costly geological investigation and allow the number of potential sites to be further narrowed down. RAWRA ensured that all the communities concerned were kept fully informed of developments and organised a number of meetings to discuss the potential construction of a deep geological repository. The inhabitants of most of the communities concerned strongly oppose the construction of a repository near their homes, therefore it has been decided that further geological investigation will be postponed for five years, i.e. until 2009. This should provide enough time for the Government and the local communities concerned to agree upon the conditions allowing the deep geological repository programme to continue. RAWRA

signed a Memorandum of Understanding with certain municipalities in the Rohozná location in the second half of 2004. The Memorandum will form the basis for RAWRA's communication with residents in this location.

The year saw another important event for RAWRA in the WATRP (Waste Management Assessment and Technical Review Programme) mission organised by the International Atomic Energy Agency. The mission was organised at the request of the State Office for Nuclear Safety with the aim of assessing the progress of the deep geological repository development programme in the Czech Republic. The international team of experts acknowledged the progress made to date concerning the construction of a future deep geological repository and presented a number of technical recommendations based on best practice in other countries.

RAWRA's administrative obligations during the year included the supervision of Nuclear Account funds paid by radioactive waste generators, verification of estimates of the costs involved in nuclear facility decommissioning, record keeping and reporting etc. RAWRA continued to keep the public up to date on its activities through its information centres, via the internet, through press releases and through various publications released during the year.

In conclusion therefore, RAWRA successfully fulfilled its mission as defined in the Atomic Act and maintained the required high standards in addressing its various obligations. It is my pleasure once again to express my thanks to all RAWRA's employees as well as to our various partner organisations for their contribution to our achieving such highly satisfactory results.

Vítězslav Duda, MBA

## **RAWRA's Board**

The activities of the Radioactive Waste Repository Authority are supervised by RAWRA's Board. The membership of the Board comprises representatives of the Ministry of Industry and Trade, the Ministry of Finance, the Ministry of the Environment, major radioactive waste producers, the regions comprising those municipalities in which existing radioactive waste repositories are located and those in which new repositories are currently being designed or under construction, as well as representatives of the public. Through its various decisions and recommendations, the Board takes an active part in RAWRA's activities during the year.

In 2004 RAWRA's Board consisted of the following members:

### **Mr. Josef Sedlák**

Board Chairman

Personnel Section at ČEZ (the Czech power company)

Representative of nuclear energy sector radioactive waste producers

### **Representatives of the state administration:**

#### **Mr. Luděk Janík**

Vice-Chairman of the Board

Department of radioactive waste and nuclear safety at the Ministry of Industry and Trade

#### **Mr. Martin Holý**

Director of the Geology Section at the Ministry of the Environment

#### **Mr. Luděk Janoušek**

Head of the Environment and Energy Department at the Ministry of Finance

### **Representatives of the general public:**

#### **Mr. Vladimír Černý**

Chairman of the Rouchovany local council

Representative of municipalities in regions containing operational radioactive waste repositories

#### **Mrs. Zdeňka Fiedlerová**

Chairperson of the Jáchymov town council

Representative of municipalities in regions containing operational radioactive waste repositories

**Mr. Pavel Gryndler**

Head of the Environment Department of the Litoměřice town council  
Representative of municipalities in regions containing operational radioactive waste repositories

**Mrs. Jitka Seitlová**

Senator  
Representative of the wider general public and those regions in which radioactive waste repositories are currently in the design stage or under construction

**Representatives of radioactive waste producers:**

**Mr. František Pazdera**

Chairman of directorate and Director General of the Nuclear Research Institute Řež  
Representative of nuclear energy sector radioactive waste producers

**Mr. Ladislav Štěpánek**

Director of the Fuel Cycle Section at ČEZ  
Representative of nuclear energy sector radioactive waste producers

**Mr. Dalibor Tlučoř**

Head of the Technical Department at Immunotech  
Representative of radioactive waste producers outside the nuclear energy sector

## **Current Situation in Radioactive Waste Management**

Short-lived low-level and intermediate-level waste makes up the largest category of radioactive waste in terms of volume. This type of waste, liquid or solid, is generated during the operation of nuclear reactors and when dealing with ionising radiation sources. The radioactivity content of this waste gradually decreases over a few hundreds of years and, subsequently, this waste can be disposed of in near-surface repositories. The technology for the processing and conditioning of radioactive waste prior to its disposal is well-established and has been adopted in the Czech Republic.

Low-level waste generated at nuclear plants is stored in a surface disposal facility at the Dukovany NPP site itself. The facility's total disposal capacity of 55 000 m<sup>3</sup> (about 180 000 drums) is able to accommodate all the waste that it is estimated will be generated at the Dukovany and Temelín NPPs, provided that the waste meets acceptability criteria.

Short-lived low-level waste generated by industry and research and medical activities is disposed of at the Richard (near Litoměřice) and Bratrství (near Jáchymov) repositories. The Richard repository was constructed on the site of the former Richard II limestone quarry (underground, beneath the Bídnice hill). The waste has been disposed of at this site since 1964. The total volume of this underground facility exceeds 17 000 m<sup>3</sup>, the disposal capacity making up approximately half that volume, the remainder being service corridors.

The Bratrství repository is designed solely for the disposal of waste containing naturally occurring radionuclides. It was constructed in a mined cavity of a former uranium mine and contains 5 chambers with an overall capacity of approximately 1200 m<sup>3</sup>. The facility was put into operation in 1974.

According to the results of a recently updated safety analysis it can be concluded that all requirements concerning radiation protection and nuclear safety have been met.

The operation of all Czech repositories, including the monitoring of the now closed Hostim repository, is undertaken by RAWRA in compliance with relevant licences granted by the State Office for Nuclear Safety and, in the case of mined cavities, in compliance with permits and licences issued by the Czech Mining Authority. The overall capacity of Czech repositories provides enough space for waste disposal for the next few decades.

In addition to short-lived waste, a certain amount of long-lived low-level and intermediate-level waste is also generated; however, this waste cannot be disposed of in existing near-surface facilities. For this type of waste there are special requirements concerning the method and quality of conditioning necessary for its storage and eventual disposal in a deep geological repository. This waste is currently stored either by waste producers or by RAWRA.

High-level waste and spent nuclear fuel classed as waste are also unsuitable for disposal in existing repositories. It is envisaged that a deep geological repository will be constructed for the final disposal of these types of waste. Until such time as the deep geological repository comes into operation, such waste will be stored by waste producers.

## Operation of the Dukovany Repository

With regard to the day to day running of the Dukovany repository, in accordance with Article 26 of the Atomic Act. Nevertheless, the acceptance of waste to be disposed of at this repository and certain other responsibilities, such as inspection, are carried out exclusively by RAWRA.

Normal repository operation includes an annual inspection of buildings and equipment, the maintenance of buildings, land, machinery and electrical equipment, radiation protection, physical protection, emergency preparedness and nuclear safety. Vault D18 reached capacity level during the year and was sealed whilst the filling of vault D20 continued throughout the year.

In 2004, the Dukovany repository accepted 29 deliveries of radioactive waste from the Dukovany NPP and 11 deliveries from the Temelín NPP.

Waste disposed of during 2004	Dukovany repository
Number of waste packages (200-litre drums)	1,383
Total mass (waste packages & lump waste)	323,000 kg
Waste volume in total	281.6 m <sup>3</sup>
Activity level in total - as at 31 <sup>st</sup> December 2004	162 GBq

Monitoring of the repository and surrounding areas was performed in accordance with the approved monitoring programme; no excess radiation nor breach of the rules for the safe operation of the Dukovany repository were detected.

## Operation of the Richard and Bratrství Repositories

Both the Richard and Bratrství repositories were operated by RAWRA during 2004 in compliance with the relevant licences issued by the State Office for Nuclear Safety (SÚJB) and the Czech Mining Authority. Normal operation of these repositories covered the inspection of the mined cavities, the maintenance of buildings, machinery, electrical fittings and land. RAWRA was also responsible, in accordance with the relevant licences issued by the SÚJB, for the physical protection, radiation protection, emergency preparedness and nuclear safety of these repositories.

Waste disposed of during 2004	Richard repository
Number of waste packages (200-litre drums)	289
Total mass	90,615 kg
Waste volume in total	57.8 m <sup>3</sup>
Activity level in total - as at 31 <sup>st</sup> December 2004	2,130 GBq
Activity of alpha-emitters	0.5 GBq

<b>Waste disposed of during 2004</b>	<b>Bratrství repository</b>
Number of waste packages (200-litre drums)	72
Total mass	25,900 kg
Waste volume in total	18.3 m <sup>3</sup>
Activity level in total - as at 31 <sup>st</sup> December 2004	54.7 GBq

The geotechnical and hydrogeological parameters of the Richard and Bratrství repositories were monitored throughout the year. The facilities match safety and health protection at work requirements in compliance with the relevant legal regulations.

The test laboratory at the Richard repository for the testing of transport packages and containers is used (in accordance with SÚJB Decision 4339/2001 of 28<sup>th</sup> March 2001) to test containers designed for the transport, storage and disposal of nuclear materials and radioactive emitters (with a mass of up to 3,200 kg) as well as to test special radionuclide emitters. One B(U) type transport package, two A type transport packages and one IP-1 transport package were tested during 2004 and a separate leakage test as well as a separate drop test from a height of 1.2 meters performed. The validity of 7 certificates for various types of packages was extended at the laboratory during the year. The laboratory also provided consulting services to container users throughout the year. The laboratory's total income for 2004 amounted to CZK 306,000.

The Richard repository is currently being used for the temporary management of certain radioactive waste (according to an SÚJB Decision issued in compliance with Articles 26 and 31 of the Atomic Act). In 2004 two Decisions were issued by the SÚJB obliging RAWRA to provide for the safe management and subsequent disposal of such sources and waste.

Following SÚJB Decision 12194/2003 of 23<sup>rd</sup> June 2003, the repair of past ecological damage continued throughout the year - a former facility for the manufacture of <sup>226</sup>Ra emitters for medical use (the so-called radium line) situated at the Richard repository was cleaned up. The work, carried out by the Nuclear Research Institute (at Řež) under contract to the National Property Fund, was completed in the second half of 2004. The work will be formally concluded at a later date following a final institutional radiation inspection.

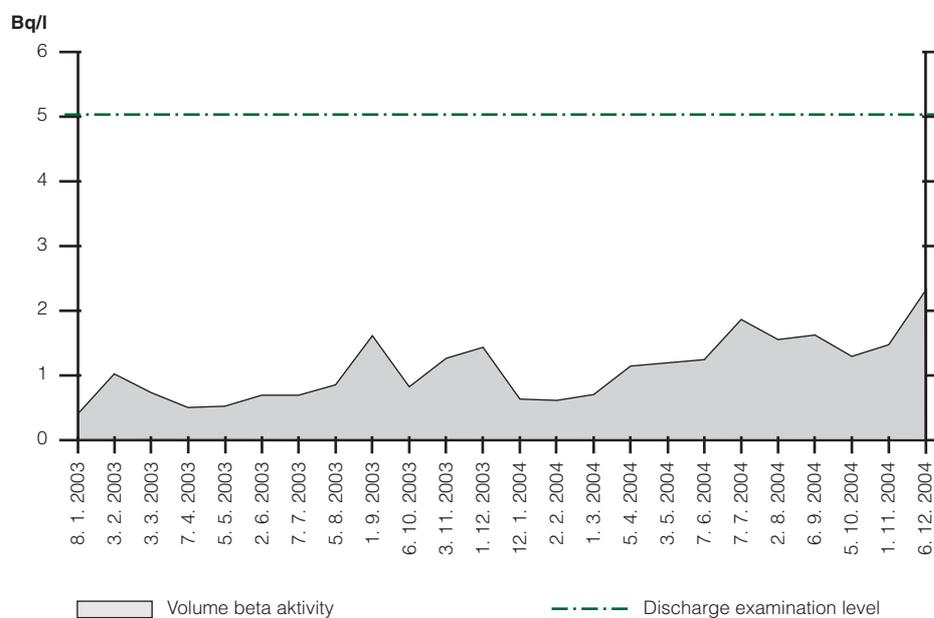
## Inspections by State Authorities

A number of repository inspections were conducted by the SÚJB and the Czech Mining Authority during 2004. No serious breaches were discovered during these inspections.

Repository	SÚJB inspections	ČBÚ inspections
Dukovany	5	0
Richard	3	5
Bratrství	3	2

Radiation monitoring of the repositories and surrounding areas was carried out in accordance with approved monitoring programmes. All the repositories were operated in compliance with the relevant legal regulations and safety of operation was assured at all times.

### Volume beta activity in discharges from the Richard repository





## **Development of a Deep Geological Repository**

The "Concept of Radioactive Waste and Spent Nuclear Fuel Management in the Czech Republic" (referred to herein as "the Concept") stipulates that long-lived radioactive waste and spent nuclear fuel classed as waste be finally disposed of in a deep geological repository. The construction of such a repository in the Czech Republic is envisaged. The safety of the repository will be ensured by a system of both engineered and natural (geological) barriers which can isolate radionuclides contained in the waste from the environment until their concentration is reduced to a level which does not pose any risk to any component of the biosphere. Various potential options for the design of the repository are set out in the so-called Reference Project available on RAWRA's website ([www.surao.cz](http://www.surao.cz)).

The development of a deep geological repository in the Czech Republic, as recommended in the Government approved Concept, includes the following stages:

- a) Selection of a deep geological repository site and identification of its characteristics, including the verification of the stability and homogeneity of the geological environment,
- b) Design projects, including engineered barrier material and design, and the verification and assessment of the safety of the disposal system,
- c) Supporting research & development.

### **Site Selection**

The Concept requires that two candidate sites be included in development plans by 2015. Proposals for generic (not site-specific) working procedures have already been developed and evaluated.

Following the completion of a survey and subsequent assessment of the whole of the Czech Republic, geological research at six potentially suitable locations commenced in the second half of 2003 with the aim of collecting more detailed geological data to further narrow down the number of potential sites. Work carried out before 2004 is considered geological research (in terms of Act 62/1988, on geological work practices) for which no special approval is required. However, in view of the overwhelmingly negative public attitude to the project, RAWRA has suspended all geological work at the sites until 2009. This five-year time period will be used to identify conditions acceptable for both the Government and the local communities concerned so that work might continue. RAWRA signed a Memorandum of Understanding, in which local council representatives expressed their willingness to discuss the issue of repository siting in their areas, with three municipalities in the Rohozná area in the second half of 2004 which will form the basis for RAWRA's future cooperation with these municipalities. RAWRA will use the next five years to prepare and develop a model Government approach to the issue for the time when repository construction commences.

Work continued at the Melechov test site on the evaluation of geological research methods. Following on from work carried out in previous years, the second stage of the

site selection programme commenced in early 2004 aimed at providing a detailed characterisation of previously selected locations in the Melechov massif and at defining individual test polygons. Locations for individual boreholes were identified based on the results of geological, geophysical, hydrogeological and geochemical research; the first borehole was drilled towards the end of the year. A 3D model of a granitic rock mass was constructed, based on the results of gravimetric measurements, which confirmed the anticipated considerable depth of the Melechov massif rock mass (more than 10 km). The results obtained are currently being entered into the geographical information system. The monitoring and evaluation of seismic activity in the Czech Republic continued during the year in co-operation with the Prague Geophysical Institute in order to assess the stability of rock formations.

### Key stages in the site selection process

Site selection has been carried out in compliance with the IAEA Guide "Siting of Geological Disposal Facilities" (SS No. 111-g-4.1); the process consists of three stages (see below).

Development of a Czech deep geological repository (1992 - 2015)													
	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010	2012	2014	
<b>Stage 1</b>	█												
<b>Stage 2</b>							█						
<b>Stage 3</b>											█		

Stage 1: Area survey - an assessment of the whole of the Czech Republic, based on available historical data (completed in April 2003).

Stage 2: Narrowing down the number of potential sites according to geological criteria but not including drilling or detailed geological investigation; the geophysical measurement of six sites has been carried out and the resulting data is currently being evaluated and archived.

Stage 3: Site characterisation (detailed geological investigation including drilling and geological survey). The commencement of this stage has been postponed until 2009 or beyond.

### Results of Stage 1 - Area survey

The siting process for a deep geological repository commenced in 1992. During that year, 32 potential sites meeting the required geological criteria were identified by the Czech Geological Institute. As a result of further research carried out jointly by the Czech Geological Institute and the Nuclear Research Institute under the auspices of the Ministry of the Environment, the number of potential sites was narrowed down to 13 in 1998 and subsequently, following a detailed geological survey, to 8. RAWRA then took over responsibility for the project and completed a further survey of the whole of the Czech Republic according to clearly defined criteria contained in the IAEA Guide "Siting of

Geological Disposal Facilities" (SS No. 111-g-4.1). At this stage of the site selection process, meeting the requirements of nuclear safety and radiation protection (as defined in Article 4, paragraph 3 of the Atomic Act) was the overriding priority.

As the result of an evaluation based on predefined selection criteria, six sites (out of eleven sites previously identified) were chosen as suitable to be considered in the next stage of the siting process:

No.	Site	Region	Geological unit
G/1	Lubenec-Blatno	Ústí/Labem	Čistá-Jesenice massif
G/2	Pačejov - railway station	Pilsen	Central Bohemia pluton
G/3	Božejovice-Vlksice	South Bohemia	Central Bohemia pluton
G/4	Pluhův Žďár -Lodhěřov	South Bohemia	Central Bohemia pluton
G/5	Rohozná	Highlands	Moldanubicum massif
G/6	Budišov	Highlands	Třebíč-Meziříčí massif

### Results of Stage 2 to date - Narrowing down the number of potential sites

The geological research carried out as part of stage 2 was based on a project entitled "The Homogeneity Study of Selected Granitic Rock Massifs - Study Project for a Hypothetical Site" (J. Skopový et al., 1999) and involved updating historical geological documentation for each of the sites under consideration, setting up geographical information systems for individual sites, taking aerial geophysical measurements, evaluating satellite photographs, field reconnaissance and the identification of land owners. All of these activities can be carried out without actually entering the sites concerned. In addition, preparations are currently underway at the Melechov test site for the testing of geological research methods.

Work commenced at the six sites in the second half of 2003. A contract for the establishment of geographical information systems (GIS) for individual sites as well as for the taking of aerial geophysical measurements and the compilation of basic feasibility studies for each candidate site was subsequently signed with the Geobariera consortium (consisting of Aquatest and SG Geotechnika). The following had been completed or were nearing completion by the end of the year:

- historical geological documentation updating was completed,
- a RAWRA GIS office,
- the processing and interpretation of data from aerial geophysical measurements (the measurement of a total of 1845km of selected geological ground profiles was made at a flight height of 60m, with 3m and 30m measurement densities), the final report was prepared and presented,
- the processing and interpretation of visual and radar satellite photographs and black-and-white aerial photographs was completed, the results were summarised and presented in the final report,

- information concerning conflicts of interest was updated and mapped,
- work commenced aimed at selecting, based on approved criteria, those parts of the candidate sites in which the geological parameters might be considered favourable and
- the preparation for feasibility studies of the surface area of a deep geological repository commenced.

The work showed that remote research techniques, when using sophisticated data and modern methods, can provide fully applicable results even in an environment considerably affected by the various anthropogenic factors related to the climatic conditions of Central Europe.

Sites with an area of 10 km<sup>2</sup> each will be selected and a deep geological repository feasibility study conducted for each site. This stage will be completed and a report presented towards the end of 2005. Geological research at all of the sites was stopped towards the end of 2004, following the publication of Government Decree 550 of 2<sup>nd</sup> June 2004.

### **Design Projects, Design of Engineered Barriers and Safety Assessment**

Information concerning both repository design and the engineered barriers which will form part of the disposal system as well as key components of the disposal system safety assessment will play an important role in the verification of the suitability of the site selected and in the preparation of the following stages of geological surveys at individual sites.

A project entitled "Comparison of Horizontal and Vertical Emplacement of Spent Nuclear Fuel" commenced in 2004. Two basic variants for spent fuel disposal are under consideration: vertical emplacement - a waste container is emplaced in a vertical well or silo drilled in the floor of an emplacement chamber (this option is considered in an earlier Reference Project and horizontal emplacement - a waste container is emplaced in a horizontal cavern. Other options and variants have also been considered, as has the technical feasibility of the horizontal emplacement concept and a two-storey repository. Both basic variants will be compared in the project's final phase in terms of extraction volume, the total space required and investment considerations.

The design of engineered barriers is a further important consideration in the development of a deep geological repository. During 2004 the focus was on sealing materials and backfill. An evaluation of the properties of montmorillonite-containing clay materials of Czech origin was completed. The materials were evaluated in terms of mineralogical, structural, chemical and geotechnical properties; the properties of these materials were compared with those of bentonite. This work was carried out by the Institute of Geochemistry, Mineralogy and Mineral Resources at the Charles University Faculty of Sciences in Prague and the Centre for Experimental Geotechnics at the Civil Engineering Faculty of the Czech Technical University in Prague, with the participation of

RAWRA's foreign partners, notably POSIVA (Finland) and SKB (Sweden). Montmorillonite-containing clay materials were found to be potentially suitable materials for the purpose. Bentonite of Czech origin was used in the "MOCK-UP" experiment underway at the Centre for Experimental Geotechnics, in cooperation with foreign institutions. Current progress in the experiment, which reached its final stage in 2004, can be viewed on the internet at: <http://ceg.fsv.cvut.cz/cz/ceg-mock-up-cz>.

The migration of uranium in clay materials has been studied at the Ruprechtov site for a number of years by the Nuclear Research Institute (at Řež) in cooperation with GRS Braunschweig (Germany).

The migration of uranium and other radionuclides in historical glass coloured with uranium is being studied by the Institute of Geochemistry, Mineralogy and Mineral Resources. The study, to be completed in 2005, has provided a number of interesting results, especially in terms of the possible vitrification of waste.

Following its initial phase in the previous year, the study on granites present in plutonic rocks in water supply tunnels in the Jizerské Mountains continued in 2004, especially in the tunnel running from the Josefův Důl dam to Bedřichov. The tunnel was constructed 20 years ago employing two different methods. The period of time during which it has been in operation is comparable to that of the development of a deep geological repository. Consequently, the effects of tunnelling methods on rock mass disturbance, the nature of cracks and crack fillings, the conditions under which new minerals are formed, the degradation of concrete, as well as the occurrence of fungi and other living organisms are being studied in this tunnel.

### **Supporting Research Projects**

The period of time for which radioactive waste must be isolated from the biosphere depends on the presence of long-lived radionuclides. This period can be considerably reduced by removing such radionuclides. It is expected that fissile radionuclides will be used in next generation reactor systems; the fissile radionuclides can be converted in these reactor systems into less hazardous isotopes, i.e. transmuted. The Concept requires that the progress of this method of spent nuclear fuel management be closely monitored. RAWRA has been actively supporting studies on pyrochemical reprocessing methods in which special attention is paid to the separation and extraction of actinides. In addition to studies on reprocessing methods, support has also been given to studies on the characteristics of materials to be used in the construction of transmutation technology reactors.

## **WATRP Mission**

Following a decision of the Board, RAWRA, through the SÚJB, organised an international assessment (the WATRP mission) on the ongoing programme for the development of a deep geological repository in the Czech Republic. The WATRP (Waste Management Assessment and Technical Review Programme) was introduced by the International Atomic Energy Agency (IAEA) with the aim of providing Member States with assistance in preparing reviews and comprehensive assessments of radioactive waste management. The Czech Republic, being a signatory to the IAEA Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management, must meet the requirements defined in this Convention. RAWRA prepared relevant background documents for the WATRP mission and did all in its power to ensure that the mission went smoothly. The recommendations made at the end of the mission are the joint recommendations of the expert members of the review team (not those of the IAEA). The review team comprised experts from countries with long-running and extensive deep geological repository programmes.

The mission's conclusions relating to RAWRA are given below:

1. The review team appreciated the progress achieved to date in the development of the deep geological repository in the Czech Republic; nothing of an irrelevant or erroneous nature on the part of RAWRA was identified.
2. In the view of the team, the deep geological repository development programme has progressed in line with standard international practice. Nevertheless, it is clearly still in the initial stage, with the necessary personnel involved considering the deadline for the commissioning of the repository (2065).
3. As regards RAWRA's priority objective, i.e. the siting of the repository, no comment was made by the team on the technical procedures employed by RAWRA.
4. Concerning the technical design of the repository, a number of recommendations were made based on good practice from other countries. Recommendations relate particularly to the design of the future repository and eventual safety performance assessment thus contributing to the optimisation of the final design of the repository.

The review team's recommendations, based on long-time national and international good practice, will be seriously considered by RAWRA in the future development of a Czech deep geological repository.



## **Managerial, Technical, Legal and Administrative Matters**

In addition to those outlined above, RAWRA is involved in a whole range of additional activities either in connection with its main area of business or as required by relevant legislation.

### **Licensing and Radiation Protection**

RAWRA manages its repositories and relevant supporting activities in compliance with licences issued by the State Office for Nuclear Safety (SÚJB) and as required by the Atomic Act. Further relevant documentation for RAWRA's operation of its repositories has been approved (the licence for the Dukovany repository has been extended to 31<sup>st</sup> December 2007 and for the Richard and Bratrství repositories to 31<sup>st</sup> December 2008); all RAWRA's activities were carried out in compliance with this documentation during the year. RAWRA, in cooperation with the SÚJB, prepared the necessary updating of certain documents; an application for the approval of suggested changes will be submitted in 2005.

In order to meet all the requirements concerning radiation protection (as defined by Regulation 307/2002), the monitoring of repositories currently in operation as well as the now closed Hostim repository has been carried out. All staff potentially exposed to radiation have been equipped with personal dosimeters and receive full medical check-ups on a regular basis. The expertise and skills of A and B category workers are regularly verified and the inventory of RAWRA owned radiation sources regularly updated. A total of 460 water samples were taken during 2004 and the air quality in underground facilities checked as part of the ongoing monitoring of the repositories and their surrounding areas. No radiation protection breach occurred during the year. In addition to its routine activities, RAWRA supervised both the work itself and the necessary radiation protection during the reconstruction of the "radium line" at the Richard repository.

Concerning statutory requirements for radiation protection, RAWRA co-operated closely with the SÚJB during their facility inspections and supervised the subsequent correction of any deficiencies identified. Requirements defined in SÚJB Regulation 318/2002, on emergency preparedness, were satisfied.

### **Maintaining Records of Accepted Radioactive Waste and Nuclear Material**

RAWRA is responsible (according to Article 26, paragraph 3d of the Atomic Act) for maintaining records of accepted radioactive waste and its producers. Detailed rules for maintaining these records are set out in Regulation 307/2002. Records of accepted radioactive waste are maintained both in paper and electronic form. ZISS, the electronic database, contains records of all the radioactive waste accepted by RAWRA. Historical

data previously maintained only in paper form has been gradually transferred to the database. Data contained in historical accompanying documentation in paper form relating to waste accepted prior to the transfer of repositories into State ownership, i.e. before 2000, is gradually being incorporated into the digital archive. At the year end the database contained more than 9918 historical references for the period 1965 to 1989, relating to more than 22 299 waste packages. This process will continue throughout 2005.

Data on 327 licence holders, 129 of them waste producers, had been recorded by the end of 2004. In addition, 553 producers of historical waste, i.e. waste disposed of at the Richard and Bratrství repositories before 2000, is contained in the database.

Records on nuclear material were maintained in compliance with Regulation 316/2002. A total of 164 items of nuclear material, mostly depleted uranium, had been recorded by 31<sup>st</sup> December 2004.

### **Administration of Nuclear Account Funds**

The administration of Nuclear Account funds was governed in 2004 by the Atomic Act, Article 27; Government Decree 416/2002, on the scale of charges and manner of payment by radioactive waste producers to the Nuclear Account and on annual contributions to local communities; Act 337/1992, on the administration of taxes and levies, as amended; RAWRA Statutes; and the Rules for the Management of Funds contained in the Nuclear Account issued by the Ministry of Finance on 28<sup>th</sup> April 2000 (193/25 900/2000). Detailed records were kept on individual contributors to the Nuclear Account (in compliance with Government Decree 416/2002, Article 3).

#### Payments by producers of radioactive waste from nuclear reactors

Pursuant to Government Decree 416/2002, Article 1, ČEZ contributed CZK 1,316,234,000 while the yearly contribution made by the Nuclear Research Institute was CZK 495,000. Both amounts were paid in regular monthly instalments which were made directly to the Nuclear Account in accordance with the schedule set out by the relevant Government Decree.

#### Payments by other producers of radioactive waste

Other waste producers, as specified in Article 2 of Government Decree 416/2002, paid their charges following acceptance of their waste for disposal by RAWRA. Payment notices were issued to each waste producer (based on a contract between RAWRA and the respective waste producer) on acceptance of the radioactive waste accompanied by the relevant waste acceptance documentation. The total sum paid by other waste producers in 2004 amounted to CZK 6.6 million.

Disposable funds in the Nuclear Account were invested by the Ministry of Finance in the financial market (in compliance with Article 27 of the Atomic Act). The total gross return on these investments in 2004 was CZK 119.7 million.

### **Auditing Licensees' Decommissioning Reserves**

RAWRA is responsible (according to the Atomic Act, Article 26, paragraph 3h) for ensuring, by means of an audit, that relevant licence holders honour their obligation (Atomic Act, Article 18, paragraph 1h) to create financial reserves for the future decommissioning of their plants. All licence holders in possession of a certificate verifying their decommissioning cost estimates and whose proposed strategy for and method of decommissioning has been approved by the SÚJB are subject to such an audit.

During 2004, as in previous years, RAWRA conducted audits aimed at verifying the accumulation of financial reserves for eventual decommissioning. Only those licence holders with estimated decommissioning costs above a set limit of CZK 300,000 were subject to such audits. Audits were conducted of 10 organisations comprising a total of 25 facilities.

The audits showed that a number of licence holders had not opened special bank accounts in which decommissioning reserves should be deposited. Amended Act 593/1992, on reserves for identifying the basis for income tax assessment clarifies the rules for the opening of an earmarked account. According to Article 10a of the amended Act, such a reserve is considered a tax deductible expense only if the required amount is transferred to the respective earmarked account before the date on which the tax return should be filed. This rule, with effect from 2004, does not apply to reserves accumulated prior to the date of its coming into force. In order to comply with Article 10a of Act 593/1992, the timetable for the performance of audits to verify the accumulation of financial reserves had to be modified. The audit for 2004 should be completed by the third quarter of 2005.

### **Public Relations and Communications**

RAWRA aims to enhance the public's awareness of radioactive waste and its management in the Czech Republic. The free availability of information on radioactive waste management is a necessary precondition for a full discussion involving all the parties interested in finding the best way to tackle the issue of high-level radioactive waste and spent nuclear fuel in the Czech Republic. The internet and RAWRA's information centres (at the head office building in Dlážděná Street in Prague, the Richard repository and at Rouchovany, a village near the Dukovany repository) are employed primarily to provide information and are visited by individuals as well as groups of young people from both primary and secondary schools. RAWRA participated in the preparation of a six-episode TV series on radioactive waste management, part of the Popularis weekly programme which aims to present complicated scientific themes to a general audience, broadcast by ET2 (the second Czech state TV channel) towards the end of 2004. The series is now used by RAWRA in presentations to the public at its information centres and on other occasions.

RAWRA is keen to maintain good relations particularly with the local populations of those areas in which operating repositories are situated as well as areas potentially eligible for the construction of a deep geological repository. At the end of 2003, RAWRA's Managing Director invited all the communities concerned to a meeting the aim of which was to discuss programmes concerning the long-term development of the region in which a future deep geological repository might be sited. However, only one community had responded positively to this invitation by the beginning of 2004 while other communities either turned down the invitation or did not respond at all. Due to the lack of response, together with the disappointing results of local referenda on the siting process, the Ministry suggested that all geological survey work at the candidate sites be suspended until 2009. This proposal was subsequently approved by the Government (Decision No. 550). Nevertheless, RAWRA has continued to search for appropriate forms of communication with communities in the areas involved. Following the refurbishment of the public library at Rouchovany and the establishment of a RAWRA information centre there, which was well received by the local community, similar information centres were set up at a further two villages - Lubenec and Rohozná. Opening ceremonies were held in March (at Lubenec) and April (at Rohozná) attended by chairmen of local councils, representatives of regional authorities and local journalists. Display posters, RAWRA's website and those of other domestic and foreign organisations responsible for radioactive waste management as well as printed materials and various relevant film clips are available to visitors. In August 2004, RAWRA information posters were put on display and printed materials made available at specially altered premises on the ground floor of the community council building at Dolní Cerekev. Preparations for an information centre at Milíčov near Rohozná commenced towards the end of the year.

In May 2004, RAWRA organised a three-day excursion for community representatives to selected facilities in Switzerland (the Zwiilag interim storage facility and the Grimsel underground laboratory) aimed at providing participants with the opportunity to become familiar with the various modern technologies employed in radioactive waste management (storage and fluidised bed combustion) and research work currently underway at the underground laboratory. The Grimsel laboratory is located in granite rock (the Czech deep geological repository development programme focuses on this rock type); experiments carried out there under real deep geological repository conditions concentrate primarily on the assessment of deep geological repository safety. A total of 36 representatives from all six locations involved took part in the excursion.

A major concern for local communities has been particularly those projects involving the siting process. In order to assure these communities of the complete transparency of these various projects, RAWRA invited community representatives to participate in an inspection day for the Geobariera project in April. Unlike the previous inspection day, this time only a small number of community representatives took part, probably because information presented on the previous inspection day was considered too technical and not easily comprehensible. Subsequently, RAWRA prepared progress reports as of 30<sup>th</sup> April 2004 for all six candidate sites; the reports were distributed to interested communities and respective information centres.

It is encouraging that the general public is interested in learning about radioactive waste management in other countries, that they compare the Czech approach to that of other countries and are keen to know the views of foreign specialists on the Czech deep geological repository development programme. For this reason RAWRA, on the occasion of a meeting of the WATRP Mission held in Prague on 17<sup>th</sup> to 21<sup>st</sup> May 2004 to assess the progress achieved since 1993 in the development of a Czech deep geological repository for spent nuclear fuel and radioactive waste, organised a meeting of internationally respected specialists from Germany, Finland, France and Switzerland with representatives of candidate locations for the construction of a repository as well as representatives of environmental organisations. A press conference was organised by RAWRA at the end of the WATRP Mission.

At a meeting held at the Rohozná location it was agreed that further information and discussions on the possible variants of the repository were needed. A memorandum of understanding, the wording of which had been discussed and approved beforehand by the Dolní Cerekev, Cejle, Milíčov and Batelov local councils, was signed by council chairmen and RAWRA's Managing Director in Jihlava on 29<sup>th</sup> September 2004 at a meeting attended by the regional press. The Cejle local council, however, later retracted its approval in a letter of 15<sup>th</sup> November 2004, following the results of a vote by the inhabitants of the village at a public meeting.

By signing the Memorandum of Understanding, RAWRA pledges to seek such a solution to the issue of the siting, construction and operation of a deep geological repository which would respect as much as possible the interests of the communities concerned, keep local inhabitants informed of developments through local information centres, organise excursions for those interested to relevant facilities and explore, in cooperation with the communities themselves, the possibilities and conditions for implementing an accompanying programme to the benefit of the microregion concerned. RAWRA also pledges to provide data to independent experts when required and to provide funding for their work. The communities, by signing the Memorandum, have expressed their willingness to at least discuss repository options thus allowing RAWRA to design a model procedure for approaching this issue and helping to create the right conditions for providing the local population with relevant information. These communities, however, reserve the right to reject in the future any further work concerning the siting or construction of a deep geological repository.

At a meeting with community representatives held in early December 2004 to discuss ways in which to further the Memorandum, continuing cooperation for the foreseeable future was agreed. An excursion to interim storage facilities and repositories, cooperation with local schools and public libraries as well as RAWRA's active participation in major local community events were seen as the main priorities.

At the end of the year RAWRA had contacted most of the 48 communities in the six candidate locations offering once again to organise meetings of local inhabitants with specialists to discuss issues relating to the disposal of radioactive waste in deep geological repositories as well as other issues including excursions to the Dukovany

repository etc. The Horní Radouň, Okrouhlá Radouň and Kostelní Radouň communities responded positively to the offer and consequently, an excursion was organised to the Dukovany repository and interim storage facility for spent nuclear fuel followed by an informal question and answer meeting at Hrotovice.

#### **Provision of information according to Act 106/1999, on the free access to information**

Number of applications for information under the Act	0
Number of appeals against a ruling	0
Conclusions of proceedings on sanctions for infringement of the Act	0
Other information concerning the implementation of Act 106/1999	-

#### **Internal Control System**

RAWRA's internal control system is defined in the following basic management directives: The Handbook on RAWRA's Control System; The Standing Orders; The Internal Auditing System; and Principles of Asset Management. These documents specify the responsibilities of individual departments, the competences and responsibilities of the management and executives, as well as the main audit principles and methods to be adopted by RAWRA's management. Based on these management directives, a number of internal regulations have been drawn up which set out the rules governing individual activities.

RAWRA's internal auditing system was adopted in compliance with Act 320/2001, on financial control in the public sector, while respecting the Authority's specific conditions, primarily its organisational structure, the number of staff and the accumulation of functions.

Internal audits in 2004 were carried out according to an annual plan approved by RAWRA's Managing Director. A total of 4 internal audits focusing on system and compliance auditing were performed during the year by an internal auditor. These audits were carried out in addition to the annual external audit of the financial statements required by the Atomic Act.

Reports on the results of internal audits including subsequent recommendations were discussed with those departments subjected to an audit and minutes were taken. The recommendations were accepted in most cases and deadlines set for their implementation. The recommendations were aimed at improving the management process, complying with the rules for the internal auditing system, updating internal regulations in line with changes in Czech legislation or RAWRA's organisational structure as well as at improving the collection of penalties for delay in payment. Some recommendations were implemented during the course of the audits. The degree of implementation of certain other measures suggested will be monitored and verified in

early 2005. In addition, consultancy services were provided. A report on the results of the internal audits and the efficiency of the internal auditing system was prepared in accordance with Regulation 416/2004 and submitted to the appropriate department of the Ministry of Finance.

### **International Cooperation**

The issue of radioactive waste management has to be satisfactorily addressed in each and every country employing ionising radiation sources. Broad international cooperation has been established to deal with this demanding and complex issue. International institutions generally co-ordinate radioactive waste management activities, put forward legal and regulative initiatives and, last but not least, form a platform for meetings of specialists and the exchange of information. The most important areas of international cooperation as far as RAWRA is concerned are the testing of methods for the assessment of repository safety, the demonstration of the feasibility of deep geological repositories and the development of new technologies. Maintaining existing contacts and participating in such activities is of the highest importance to RAWRA. During 2004 RAWRA played a role in the preparation of various technical papers, was involved in coordinated research programmes and delegated experts to certain technical committees of the International Atomic Energy Agency (IAEA) as well as to various meetings of consultants and expert groups.

Since the Czech Republic is a signatory to the IAEA Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management, RAWRA together with the State Office for Nuclear Safety share the responsibility for meeting the requirements defined in this Convention. Radioactive waste management issues are also handled by the OECD-NEA, specifically its Radioactive Waste Management Committee (RWMC). The RWMC organises its activities in the form of internal and external working groups. RAWRA specialists represent the Czech Republic on the RWMC as well as in the Integration Group for Safety Case (IGSC) and the Forum on Stakeholder Confidence working groups. RAWRA also organises and in some cases finances the participation of Czech representatives in specific projects.

RAWRA was active during the year in supporting the following projects related to the various uses of nuclear energy conducted under the Phare and Transition Facility programmes organised by the Directorate General for Enlargement:

- a) The "Solution for Closure of a Chamber in the Richard Repository" project comprises the technical solution itself, related safety analysis and eventual implementation which will be financed from funds provided for the project outlined in paragraph d), below.
- b) The "Reconstruction of the Hot Cell at the Richard Facility" project is based on the results of a previous study on the reconstruction of the radiation chemistry building at this repository.
- c) The "Development of the Waste Tracking Information System" project is concerned with the updating and completion of the ZISS information system so that it fully meets the requirements of the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management which concerns the monitoring of the

whole radioactive waste management cycle, beginning with the occurrence of the waste up to its final disposal in a repository

- d) The "Realisation of Closure of Chambers in the Richard Repository as Input for Establishing a Safety Case" project is based on the results of the project outlined in paragraph a), above. The closure of one chamber will commence in 2005.
- e) The "Modernisation of the Laboratory at the Richard Repository for the Testing of transport containers" project should ensure that the laboratory meets the requirements set out in new rules and regulations issued by relevant Czech and international institutions and obtains an internationally recognised certificate for the testing of containers designed for the transport, storage and disposal of radioactive waste.
- f) The "Supply of Equipment for the Monitoring and Inspection of Radioactive Waste" project.
- g) RAWRA submitted two draft projects to be included in the Transition Facility programme for the financial years 2005 and 2006: RAWRA's Integrated Control and Information System and Closure of the Bratrství Repository.

RAWRA naturally pays close attention to all new European Commission legislation. The Commission has recently issued draft Directives concerning nuclear safety and radioactive waste management. These draft Directives relate specifically to the safety of nuclear installations during operation and decommissioning, financial reserves for future decommissioning (decommissioning funds), spent nuclear fuel management and the development of deep geological repositories including set timetables for the commissioning of such repositories. However, these draft Directives have not yet been accepted due to the different views held by Member States on these issues; the Commission continues to seek consensus.

Concerning bilateral cooperation, RAWRA is keen to establish direct links with foreign organisations similarly involved in radioactive waste management to the mutual advantage of both parties and has, consequently, established strong ties with a number of foreign organisations and initiated bilateral activities including discussions on common projects or the exchange of information concerning specific issues relating to radioactive waste management. Framework cooperation agreements have been signed between RAWRA and ENRESA (Spain), NAGRA (Switzerland), POSIVA (Finland) amongst others and RAWRA has been involved in specific joint projects with SKB (Sweden), GRS (Germany) and Decom (Slovakia).

### **Quality Assurance and Control; Safety**

Over the past few years RAWRA has been developing and constantly updating a quality assurance system the aim of which is to assure the highest standards of performance. This system is consistent with the requirements of relevant legislation (the Atomic Act and SÚJB Regulation 214/1997, on quality assurance concerning activities related to the use of nuclear energy and radiation exposure and on defining the criteria for facility classification especially concerning safety). Quality assurance in 2004 focused on consolidating the quality assurance system itself and tailoring the system to the specific requirements of individual facilities.

Accuracy checks were carried out on dosimeters used during the acceptance of radioactive waste at disposal facilities and for measuring worker radiation exposure. As regards the checking of radioactive waste to be accepted at disposal facilities, data on the waste properties declared by waste producers in accompanying documentation was verified at the respective producers' sites.

Special training courses were organised for new employees. Compliance with regulations relating to health and safety at work and fire protection was regularly verified at all RAWRA's premises and inspections were performed at the repositories. Fire protection exercises were carried out, these exercises being organised in conjunction with mining specialists at sites with mined cavities. RAWRA's staff underwent training to improve their skills in the field of fire protection and risk assessment and a number of staff gained health and safety at work qualifications..

### **Staffing and Premises**

RAWRA had 34 employees at the year end, including security guards at the Richard and Bratrství sites. RAWRA's staff attended various training courses in compliance with legislative requirements. RAWRA's statutory obligations concerning health and safety at work and fire protection (the Labour Code and the Fire Protection Act) were met by employing a specially qualified person.

Since the end of 2000 RAWRA's head office is situated in a completely refurbished Interior Ministry building at Dlážděná Street 1004/6, Praha 1 and is equipped with the office technology and company cars required in order to meet its varied responsibilities.

## **Financial Management**

RAWRA's activities are financed from Nuclear Account funds. Nuclear Account income in 2004 consisted mainly of payments made by ČEZ in accordance with Government Decree 416/2002. Furthermore, RAWRA received grants from the state budget (in accordance with Article 28, paragraph 1 of the Atomic Act) for the management of that radioactive waste disposed of prior to the Atomic Act coming into force and receives returns on the financial investment of disposable funds in the Nuclear Account. Detailed information on the Nuclear Account makes up part of the State Financial Statement prepared by the Ministry of Finance.

RAWRA is authorised to manage state property and consequently maintains the relevant accounts in pursuance of Act 563/1991, on accounting; Act 218/2000, on budgeting rules; and implementing Regulation 505/2002. RAWRA's budget is determined according to a budget structure defined by Ministry of Finance Regulation 323/2002.

RAWRA holds no assets of its own, effects no depreciation of fixed assets, creates no reserves, is not a payer of income tax (in terms of Article 18/2c, Act 586/92), nor of value added tax, and makes no profit. All its revenues from services provided to radioactive

waste producers as well as unused budget funding (except for the fringe benefits fund, i.e. the cultural and social needs fund) are returned to the Nuclear Account at the year end.

<b>Utilisation of Budget Funding in 2004 (CZK 000)</b>									
Item No.	Item	Approved budget	Adjusted budget	Budget utilisation	Utilisation percentage				
	<b>EXPENSES</b>								
<b>5</b>	<b>Current expenses</b>			<b>49 000</b>	<b>52 000</b>	<b>51 297</b>	<b>98.65</b>		
<b>50</b>	<b>Wages, salaries and other remuneration</b>			11 290	11 290	11 125	98.53		
501	Wages and salaries			10 570	10 570	10 525	99.57		
<b>503</b>	<b>Employer's statutory insurance contributions</b>			3 740	3 740	3 740	100.00		
5342	Transfer to fringe benefits fund			220	211	211	100.00		
<b>6</b>	<b>Capital expenses</b>			45 000	42 000	41 294	98.32		
<b>61</b>	<b>Asset acquisition and related expenses</b>			32 500	32 500	32 433	99.8		
6901	Reserves for capital expenses			0	0	0			
	<b>Total expenses:</b>			<b>94 000</b>	<b>94 000</b>	<b>92 591</b>	<b>98.50</b>		
	<b>REVENUES</b>								
<b>21</b>	<b>Revenues from own activities and surplus contributions from directly related organisations</b>			0	0	428			
<b>23</b>	<b>Revenues from sales of non-capital assets and other non-taxable income</b>			0	0	684			
<b>31</b>	<b>Revenues from sales of long-term assets and other capital income</b>			0	0	92			
<b>411</b>	<b>Non-investment grants from the central budget</b>			49 000	52 000	51 606	99.24		
4119	Non-investment grants from the state budget			13 000	13 000	12 606	96.97		
<b>421</b>	<b>Investment grants from the central budget</b>			45 000	42 000	42 000	100.00		
	<b>Total revenues:</b>			<b>94 000</b>	<b>94 000</b>	<b>94 810</b>	<b>100.86</b>		

Note: Items 411 and 421 are grants from the Nuclear Account; item 4119 is a grant from the state budget.

Expenses are subdivided into current expenses and capital expenses. Expenses relating to technical development projects, materials purchased and utilised, telecommunications services, rental payments, education and training, consultancy services, travel expenses and purchasing of external services are included in current expenses. Expenses relating to the deep geological repository programme, reconstruction of existing repositories, investment in information technology and others are included in capital expenses. A detailed review of the utilisation of budget funding by individual item, accompanied by a commentary, has been submitted to RAWRA's Board.

## Evaluation of RAWRA's Performance

RAWRA met its responsibilities for the safe and reliable operation of Czech radioactive waste repositories as defined in the Atomic Act. Preparations continued for the development of a deep geological repository where high-level radioactive waste and spent nuclear fuel will be disposed of in the future. Concerning the efficient utilisation of budget funds for external subcontractors, RAWRA complied with the provisions of Acts 199/1994 and 40/2004 (amended), on public works contracts. Funds were employed efficiently and in compliance with the budget in order to fully meet the targets set out in the yearly plan of activities.

## Auditors' Report

The accounting records of RAWRA and its financial statements have been subjected to external audit, under the provisions of the Atomic Act, Article 30. The audit has been conducted by HLB Hayek Ltd. - licence No. 29; auditor Jan Řehák, certificate No. 1692. The outcome of the audit shows that the keeping of accounting records and the financial statements comply with applicable regulations.

**Report on the audit of the financial statements  
of the Radioactive Waste Repository Authority  
Dlážděná 6, Praha 1 as at 31<sup>st</sup> December 2004**

The audit of the financial statements of the Radioactive Waste Repository Authority, a state organisation, having its registered office at Dlážděná 6, Praha 1, company identification No. 66000769, has been performed by HLB HAYEK Ltd., Jindřišská 5/901, Praha 1, licence No. 29. The auditor responsible for preparing this Report is Jan Řehák, certificate No. 1692. The Report has been prepared for RAWRA's Board.

We have audited the financial statements of the Radioactive Waste Repository Authority, a state organisation, as at 31<sup>st</sup> December 2004. The Managing Director of the Organisation is responsible for preparing the financial statements. Our responsibility is to report our opinion on the financial statements audited.

The audit has been conducted in accordance with the Auditor Act and regulations issued by the Czech Chamber of Auditors. Under these regulations, each audit shall be planned and performed in such a way as to provide the auditors with sufficient evidence to give reasonable assurance that the financial statements are free from apparent misstatements. An audit includes an examination, on a test basis, of completeness and conclusive evidence relevant to the amounts and disclosures given in the financial statements. It also includes an assessment of the significant estimates made by the Organisation, and of whether the accounting policies are appropriate to the circumstances of the Organisation, as well as an evaluation of the overall adequacy of the presentation of information in the financial statements. We are confident that the audit performed gives an adequate basis for forming our opinion.

In our opinion, the financial statements give a true and fair view, in all important aspects, of the assets, liabilities, financial resources for covering such liabilities and the overall financial situation of the Radioactive Waste Repository Authority as at 31<sup>st</sup> December 2004 in compliance with the Accountancy Act and relevant regulations of the Czech Republic.

Prague, 10 February 2005

HLB Hayek Ltd.  
Licence No. 29

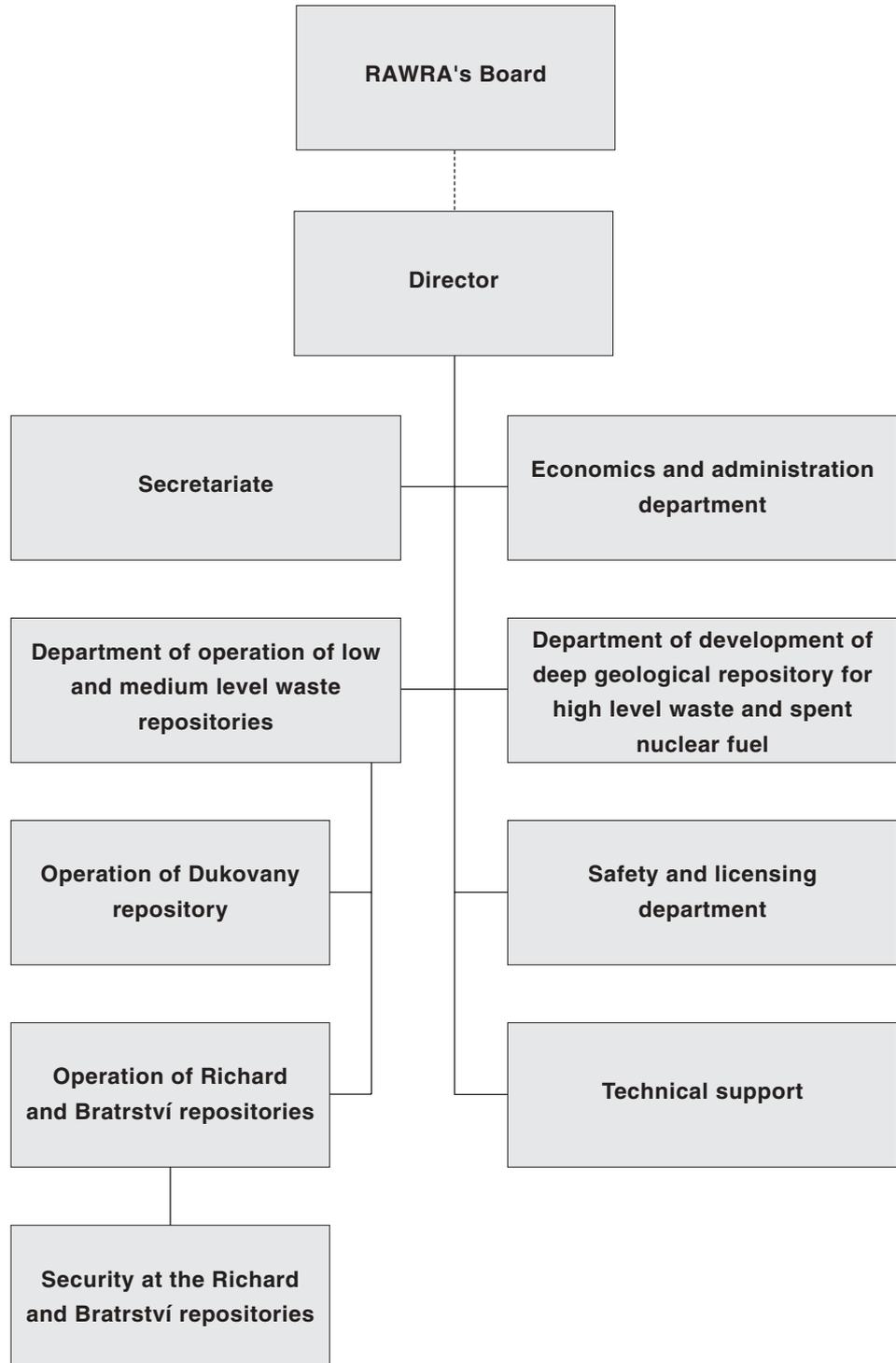


Jan Řehák  
Certificate No. 1692

## Balance sheet as at 31 December 2004 (CZK 000)

ASSETS	at 1 <sup>st</sup> Jan. 2004	at 31 <sup>st</sup> Dec. 2004
<b>A. Fixed assets</b>	<b>415 174</b>	<b>427 856</b>
1. Intangible fixed assets	96 163	126 868
Research and development	43 642	56 057
Software	6 617	6 617
Low-value intangible fixed assets	1 086	1 271
Intangible fixed assets under construction	44 817	62 923
2. Accumulated depreciation - intangible fixed assets	0	0
3. Tangible fixed assets	319 011	300 987
Land	4 740	3 924
Buildings, halls and structures	264 022	242 291
Machinery, equipment, vehicles, furniture and fixtures	42 672	45 244
Low-value tangible fixed assets	5 672	6 422
Tangible fixed assets under construction	1 605	3 106
Advance payments made	300	0
4. Accumulated depreciation - tangible fixed assets	0	0
5. Financial asset property	0	0
<b>B. Current assets</b>	<b>4 018</b>	<b>4 564</b>
1. Stocks	0	0
2. Receivables	1 070	831
Trade receivables	1 070	831
Receivables from participants in an association	0	0
Receivables from employees	-1	0
3. Financial assets	1 617	1 513
4. Budget management assets	1 331	2 220
5. Temporary accounts of assets	0	0
<b>TOTAL ASSETS</b>	<b>419 192</b>	<b>432 420</b>
<b>LIABILITIES</b>		
<b>C. Own financial resources for covering assets</b>	<b>408 915</b>	<b>428 048</b>
1. Property funds	415 174	427 856
Fixed assets funds	415 174	427 856
2. Financial funds	98	102
Cultural and social needs fund	98	102
3. Special funds of non-profit organisations	0	0
4. Sources for covering the non-profit organisation budget	0	0
5. Profit and loss account	-6 357	90
Balance of expenses and costs	-6 700	-542
Balance of income and returns	343	632
<b>D. Liabilities</b>	<b>10 277</b>	<b>4 372</b>
1. Reserves	0	0
2. Long-term payables	0	0
3. Short-term payables	10 277	4 372
Trade payables	8 300	1 262
Payables to employees	3	1
Payables to social security	480	703
Other payables	1 495	2 406
4. Bank loans and short-term financial assistance	0	0
5. Temporary accounts of liabilities	0	0
<b>TOTAL LIABILITIES</b>	<b>419 192</b>	<b>432 420</b>

## Organisation Chart



## Team of RAWRA



\_\_\_\_\_ Jaroslav Jelínek

Lucie Jarošová

\_\_\_\_\_ Andrea Šebianová

\_\_\_\_\_ Miloš Janů

\_\_\_\_\_ Věra Šumberová

Ivana Kédlová

\_\_\_\_\_ Jiří Soudek

\_\_\_\_\_ Soňa Konopásková

Martina Ligaunová

\_\_\_\_\_ Jana Mejdrechová

Zdena Čmielová

\_\_\_\_\_ Karel Kunc

\_\_\_\_\_ Miroslav Kučerka

\_\_\_\_\_ Josef Harčiarik

Jitka Mikšová

\_\_\_\_\_ Jiří Faltejsek

\_\_\_\_\_ Vítězslav Duda

Jaroslava Liehneová

\_\_\_\_\_ Milan Dvořák

\_\_\_\_\_ Jana Šoltésová

Ivana Škvorová

\_\_\_\_\_ František Woller

## Contacts

### Management

**Mr. Vítězslav Duda, MBA**

Managing Director  
E-mail: [duda@rawra.cz](mailto:duda@rawra.cz)  
Tel.: +420 221 421 526

**Mr. Jiří Faltejsek**

Deputy Managing Director  
Head of Repository Operation Department  
E-mail: [faltejsek@rawra.cz](mailto:faltejsek@rawra.cz)  
Tel.: +420 221 421 527

**Mr. Milan Dvořák**

Deputy Managing Director  
for Economics and Administration  
E-mail: [dvorak@rawra.cz](mailto:dvorak@rawra.cz)  
Tel.: + 420 221 421 523

**Mr. Miloš Janů**

Repository Operation Senior Specialist  
E-mail: [janu@rawra.cz](mailto:janu@rawra.cz)  
Tel.: +420 221 421 522

**Mr. Miroslav Kučerka**

Head of the Technical Support  
Department  
E-mail: [kucerka@rawra.cz](mailto:kucerka@rawra.cz)  
Tel.: +420 221 421 528

### Other Useful contacts

**Ivana Kédlová**

Assistant to the Managing Director  
E-mail: [kedlova@rawra.cz](mailto:kedlova@rawra.cz)  
Tel.: +420 221 421 511,  
Fax: +420 221 421 544

**Dukovany Repository****Mr. Ludvík Šindelář**

Manager of the Dukovany Repository  
E-mail: [sindelar@rawra.cz](mailto:sindelar@rawra.cz)  
Tel.: +420 528 813 423  
Fax: +420 528 813 423

**Mr. František Woller**

Head of the Department for Geological  
Repository Development  
E-mail: [woller@rawra.cz](mailto:woller@rawra.cz)  
Tel.: +420 221 421 525

**Mrs. Soňa Konopásková**

Head of Safety and Licensing  
Department  
E-mail: [konopaskova@rawra.cz](mailto:konopaskova@rawra.cz)  
Tel.: +420 221 421 518

**Mrs. Lucie Jarošová**

Head of Communications  
E-mail: [jarosova@rawra.cz](mailto:jarosova@rawra.cz)  
Tel.: +420 221 421 532

**Mrs. Jana Mejdrechová**

Head of Economics and Administration  
Department  
E-mail: [mejdrechova@rawra.cz](mailto:mejdrechova@rawra.cz)  
Tel.: +420 221 421 512

**Richard Repository**

Na Bídnicí 2  
412 01 Litoměřice  
Tel.: +420 416 724 450  
Fax: +420 416 724 458

**Mr. Václav Trhlík**

Manager of the Richard and Bratrství  
Repositories  
E-mail: [trhlik@rawra.cz](mailto:trhlik@rawra.cz)  
Tel.: +420 416 724 456  
Mobil phone: +420 602 627 941





Radioactive Waste Repository Authority  
Dlážděná 6, 110 00 Praha 1  
Tel.: +420 221 421 511  
E-mail: [info@rawra.cz](mailto:info@rawra.cz)  
[www.surao.cz](http://www.surao.cz)