

# *Annual Report* *2006*



**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.

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## Managing Director's Introduction



During 2006, as in previous years, the Radioactive Waste Repository Authority (RAWRA) provided for the safe management of radioactive waste in the Czech Republic, thus successfully fulfilling its statutory obligations and respecting its in-house regulations. 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 legislation and licences granted by the State Office for Nuclear Safety.

The sealing of an emplacement chamber at the Richard repository continued during the year following completion of the preparatory stage of the project which was co-financed by the EU. Historical radioactive waste disposed of at the Richard repository was transferred to newly prepared chambers following the thorough checking and subsequent treatment of the waste. The reconstruction of the operations building, the hot chamber and the laboratory used for the testing of waste transport containers was completed. Nuclear safety, radiation protection, physical protection, emergency preparedness and the maintenance of buildings, machinery and equipment were fully provided for throughout the year at all operational repositories.

RAWRA continued during 2006 to push ahead with the deep geological repository programme concerning the disposal of high-level radioactive waste and spent nuclear fuel. Research projects were carried out as part of the programme to study in detail the long-term behaviour of the overall disposal system. A number of these projects were undertaken in cooperation with foreign organisations and institutions. Geological research at potentially suitable locations has been suspended since the general public in the affected regions is overwhelmingly against the project. The main concerns of local people include increased radioactivity levels, the adverse impact of underground tunnelling on the environment and landscape, a drop in land prices and the decline in demand for crops produced in such areas. RAWRA is committed to maintaining close contacts with those communities in which candidate repository sites are located and during 2006 organised several excursions for people from local communities to selected nuclear facilities.

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 contributions towards our achieving such highly satisfactory results.



Vítězslav Duda

## **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 in which those municipalities with radioactive waste repositories are located, 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 2006 RAWRA's Board consisted of the following members:

### **Mr. Luděk Janík**

Chairman of the Board  
Ministry of Industry and Trade

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

#### **Mr. Martin Holý**

Geology Section at the Ministry of the Environment

#### **Mr. Luděk Janoušek**

Economist at the Ministry of Finance

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

#### **Mr. Vladimír Černý**

Chairman of the Rouchovany local council

#### **Mr. Michael Kuneš**

Chairman of the Jáchymov town council

#### **Mr. Pavel Gryndler**

Environment Department of the Litoměřice town council

#### **Mrs. Jitka Seitlová**

Senator

**Representatives of radioactive waste producers:**

**Mr. František Pazdera**

Director General of the Nuclear Research Institute Řež

**Mr. Ladislav Štěpánek**

Director of the Fuel Cycle Section at ČEZ, Vice-Chairman of the Board

**Mr. Václav Urbánek**

Technical Director and Supervisory Board Chairman at CHEMCOMEX Praha

**Mr. Ivo Kouklík**

Director of the Nuclear Sources Transport Analysis Section at ČEZ



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

Short-lived low-level and intermediate-level waste (LLW/ILW) makes up the largest category of radioactive waste in terms of volume. This type of waste, liquid or solid, is generated during the operation and decommissioning 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 internationally and has been adopted in the Czech Republic.

Short-lived LLW/ILW generated at nuclear plants is disposed of at 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 of 200 litres each) 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 acceptance criteria, as well as all the short-lived LLW/ILW to be disposed of following the decommissioning of both NPPs. In addition, this disposal facility can be partly used for the disposal of institutional waste.

Short-lived LLW/ILW 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). Institutional 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 1,200 m<sup>3</sup>. The facility was put into operation in 1974.

The operation of all 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 (SÚJB) and, in the case of mined cavities, in compliance with permits and licences issued in accordance with mining legislation. The overall capacity of repositories provides enough space for waste disposal for the next few decades. The construction of new facilities for short-lived LLW/ILW disposal is not planned; the capacity of existing disposal facilities will be exploited to the optimum level and, if necessary, their enlargement will be considered.

In addition to short-lived LLW/ILW, a certain amount of long-lived LLW/ILW 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 (HLW) and spent nuclear fuel (SF) 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, SF will be stored by its producers. With advances in technology, however, it cannot be ruled out that SF producers will decide to make further use of such waste in the future.

## Operation of the Dukovany Repository

With regard to the day to day running of the Dukovany repository, RAWRA has entered into a contract with ČEZ, the Czech power company (in accordance with the Atomic Act, Article 26). 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 regular inspection of buildings and equipment, the maintenance of buildings, land, machinery and electrical equipment, radiation protection, physical protection, emergency preparedness and nuclear safety.

Vault D19 reached capacity level during the year and was sealed whilst the filling of vault D17 commenced in October and continued throughout the year. When sealing vault D19, bulky lump waste and pallets with waste were placed in the upper layer. This waste was then stabilised using a cement-based backfill.

In 2006, the Dukovany repository accepted 1,365 packages of radioactive waste (mostly 200-litre drums) with a total mass of 335.1 t and a total activity level of 478.8 GBq. Of this amount, 905 waste packages (228.9 t) originated from the Dukovany NPP which comprised 774 drums of bituminised waste (191.6 t) and 131 waste packages of unstabilised or lump waste (37.3t). A further 440 waste packages (91.3 t) originated from the Temelín NPP of which 330 drums of bituminised waste (74.7 t) and 110 waste packages of unstabilised or lump waste (13.6 t). In addition, the repository accepted 20 waste packages (14.9 t) of institutional waste.

Monitoring of the repository and of the surrounding areas was performed in accordance with the approved monitoring programme; no excess radiation or breach of the rules for the safe operation of the Dukovany repository were detected. Three inspections were conducted by the SÚJB at the Dukovany repository during 2006; no deviations were discovered during these inspections.

### Utilisation of Budget Funding for the Dukovany Repository

Current expenses consist primarily of repository operation costs incurred during 2006 of which CZK 1.5 million was granted to the Rouchovany municipality as a contribution in compliance with Act 13/2002, Article I/54 and Government Decree 416/2002.

Utilisation of Departmental Budget Funding in 2006 (CZK 000)				
Item No.	Item	Approved budget	Adjusted budget	Budget utilisation
5	Current expenses	15,950	16,166	15,015
6	Capital expenses	1,300	0	0
	Total expenses	17,200	16,166	15,015



## Operation of the Richard and Bratrství Repositories

Both the Richard and Bratrství repositories were operated by RAWRA during 2006 in compliance with the relevant licences issued by the State Office for Nuclear Safety (SÚJB) and the Czech Mining Authority (ČBÚ). Normal operation of these repositories covered the inspection of the mined cavities, the maintenance of buildings and equipment, 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. Historical radioactive waste was conditioned and subsequently transferred to new emplacement chambers in the underground facility of the Richard repository. As regards the surface area of this repository, both the operations building and the laboratory for the testing of transport packages and containers were refurbished.

In 2006, the Richard repository accepted 222 standard packages of radioactive waste with a total volume of 44.4m<sup>3</sup>, a total mass of 73.35 t and a total activity level of 345.5 GBq (of which 0.55GBq of alpha-emitters). In addition, 21 packages of radioactive waste were accepted at the repository with a total mass of 5.177 t and a total activity level of 1.858 TBq (of which 696 GBq of alpha-emitters).

The Bratrství repository accepted during the year 96 waste packages with a total volume of 19.2 m<sup>3</sup> and a total mass of 29.74 t containing only naturally occurring radionuclides with a total activity level of 46.7 GBq.

The geotechnical and hydrogeological parameters of the Richard and Bratrství repositories were regularly monitored throughout the year. Both facilities were operated in compliance with the relevant statutory safety requirements and legal regulations. Radiation monitoring of the repositories and surrounding areas was carried out in accordance with approved monitoring programmes. During 2006, a number of repository inspections were conducted by the SÚJB and the Czech Mining Authority. All the repositories were operated in compliance with the relevant legal regulations and safety of operation was assured at all times.

Repository	SÚJB inspections	ČBÚ inspections
Dukovany	3	0
Richard	7	5
Bratrství	2	2

The laboratory at the Richard repository for the testing of transport packages and containers is used 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 was tested and the validity of 5 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 2006 amounted to CZK 96,000.

The Richard repository is currently being used for the temporary management of certain radioactive waste (according to an SÚJB Decision issued in compliance with the Atomic Act, Articles 26 and 31). In 2006 two Decisions were issued by the SÚJB obliging RAWRA to provide for the safe management and subsequent disposal of such sources and waste.

### **Utilisation of Budget Funding for the Richard and Bratrství Repositories**

The safe management of radioactive waste disposed of at the Richard and Bratrství repositories in accordance with regulations effective in the period prior to the Atomic Act coming into force and the monitoring of the now closed Hostim repository were funded from the state budget in compliance with the relevant Decision issued by the Ministry of Industry and Trade in accordance with the Atomic Act, Article 28, paragraph 1 and Article 26, paragraphs 3 j) and 3 k). A total of CZK 12.8 million was used during the year for such purposes.

Current expenses primarily include operation costs (maintenance, monitoring, mining security, radiation protection etc.), repair and maintenance costs, the costs of waste transfer and related operations, the costs of a study into the refurbishment of chamber No.2 at the Bratrství repository, etc. Furthermore, current expenses include contributions of CZK 1.5 million to both the Litoměřice and the Jáchymov municipalities in compliance with Act 13/2002, Article I/54 and Government Decree 416/2002. Capital expenses consist primarily of the reconstruction costs of the operations building at the Richard repository including both the design project and the provision of equipment, costs associated with the laser scanning of the mined cavities at the Richard repository and delivery van costs.

#### **Utilisation of Departmental Budget Funding in 2006 (CZK 000)**

Item No.	Item	Approved budget	Adjusted budget	Budget utilisation
5	Current expenses	23,800	22,365	20,287
6	Capital expenses	18,300	18,350	18,326
	Total expenses	42,100	40,715	38,613



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

The "Concept of Radioactive Waste and Spent Nuclear Fuel Management in the Czech Republic" stipulates that 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 Reference Design for a Deep Geological Repository available on RAWRA's website ([www.rawra.cz](http://www.rawra.cz)).

### **Site Selection**

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 reduce the surface area of the individual candidate sites. Work carried out before 2004 was considered geological research (in terms of Act 62/1988, on geological work practices). Evaluation of the work performed was completed in 2005. However, in view of the overwhelmingly negative public attitude to the project, RAWRA has suspended all geological work at the sites until 2009. This time period will be used to identify conditions acceptable for both the Government and the local communities concerned so that work might continue.

Work continued at the Melechov test site on the evaluation and refinement of geological research methods; a further aim was to obtain real data from the deeper parts of the granitic rock mass. Geological research continued, geophysical measurements from surface were taken, and 6 small-diameter core boreholes, up to 200 m deep, were drilled to provide a detailed characterisation of the test polygons. The hydraulic properties of the rock mass were tested by means of two pairs of boreholes and the data obtained was used for first phase mathematical modelling. Both geological measurements and drilling proved that, when using an appropriate set of geophysical methods, contact surfaces between granitic rock and the surrounding rock can be determined with a high level of accuracy even in tectonically complicated regions.

The long-term monitoring and evaluation of seismic activity in the Czech Republic continued during the year in co-operation with the 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 (below).

Development of a Czech deep geological repository for HLW/SF													
	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: Reduction of the surface area of potential sites – geological work, not including drilling; geological investigation (completed in December 2005)

Stage 3: Site characterisation – geological work including drilling; geological survey (the commencement of this stage has been postponed until 2009 at the earliest)

### 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 in compliance with 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 the Atomic Act, Article 4, paragraph 3) 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	Lubeneč-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 - Reducing the surface area of potential sites**

The “Geological and Other Work Required for the Assessment and Reduction of the Surface Area of Potential Sites for a Deep Geological Repository” project was completed during the year 2005, as planned. The project, carried out by the Geobariera consortium, involved the following:

- compilation of geological information through indirect methods (aerial geophysical measurements and satellite photographs), field reconnaissance and the study of historical geological documentation; the information obtained allowed the surface area of the six potential sites to be reduced in order to facilitate the next stage of geological investigation;
- preparation of preliminary feasibility studies for each site to identify those sites where a surface area of the required size would be available for the siting of a deep geological repository whilst, at the same time, respecting all other statutory obligations and requirements;
- the design and installation of RAWRA’s geographical information system (GIS), including the input of data relating to the project.

The technical part of the project including field reconnaissance was completed in 2004. The interpretation of the collected data was performed, final reports prepared and the creation of the geographical information system completed in 2005. A peer review of the final reports consisting of about 1,300 pages and a number of appendices was carried out by four independent experts in early December 2005. Further work resulted in the reduction of the surface area of each of the sites to be subjected to further geological investigation.

A preliminary feasibility study has been conducted for all the candidate sites the aim of which was to summarise and interpret all the information available at the current stage of the project. Since data relating to deep underground rock masses was not available, the study was concerned only with the surface area of each candidate site, its connection to the existing road or railway network and other infrastructure, conflicts of interest, risk analysis and comparison of capital intensity. The conclusions of the study show that all the candidate sites provide the required surface area. This is a key finding which will allow work on all the candidate sites to continue.

The further, more detailed development of the project for the siting of a deep geological repository, concerning both the surface area and the underground structures, is naturally a key objective for the future. New data, knowledge and information relating to the candidate sites will have to be acquired in order to meet this objective.



## **Design of a DGR, Design of Engineered Barriers and Safety Assessment**

The potential design of both the underground structures and the surface area is an important part of the deep geological repository programme. A project which considered variants for both horizontal and vertical spent nuclear fuel emplacement was completed during 2006. One stage of this project concerned specifically an assessment of technology and space requirements related to the horizontal emplacement of spent nuclear fuel as considered in the Reference Design. A two-level underground structure concept which included the connection of the site to existing road and/or rail networks was further considered. A comparison of all the variants will enable RAWRA to eventually take the necessary decisions on the most technologically suitable and economically feasible design.

The design of the engineered barrier system which will form part of the disposal system as well as the interactions between the various engineered barriers are further important issues to be addressed as part of the deep geological repository programme. Issues related to engineered barriers have been examined in a number of projects. The thermo-hydro-mechanical-chemical properties of bentonite of Czech origin were tested in the "MOCK-UP" experiment at the Centre for Experimental Geotechnics at the Czech Technical University in Prague. Immediately after the completion of this experiment, a comprehensive "post-mortem" study commenced on the properties of the material used and the changes in these properties due to long-term load. To date, mechanical properties as well as chemical, crystallographic and microbiological properties have been studied. Furthermore, the ion exchange capacity of bentonite has been tested and a thermodynamic stability model designed. The results obtained will substantially enhance the knowledge of bentonite, a basic engineered barrier material.

Research continued on granitoids in water supply tunnels in the Jizerské Mountains focusing particularly on the monitoring of movements along fractures, the geophysical research of a mining disturbed zone and the monitoring of changes in various characteristics over time. Close attention was devoted to compiling detailed statistics on the various fractures observed and the relationship between these fractures and the overall stress field within the rock mass. It is hoped that this relationship, when generalised, can be used to optimise tunnel orientation in a potential deep geological repository.

A project entitled "Research of Near-Field Processes in a Deep Geological Repository" commenced in 2005 with the aim of establishing the scientific and technological basis for the assessment of near-field safety. Work involves primarily the systematic description and classification of the behaviour of various near-field components, a description of relevant conceptual and mathematical models and the identification of the research required to assess the safety of the overall disposal system. The work is being carried out, on a contractual basis, by the BP-Bariéry consortium (consisting of the Nuclear Research Institute at Řež, the Technical University of Liberec, the ARTEC Centrum, the Centre for Experimental Geotechnics at the Czech Technical University in Prague, the Nuclear Chemistry Department of the Czech Technical University in Prague, and the Department of Analytical Chemistry of the Institute of Chemical Technology in Prague).

## Supporting Research Projects

The "Concept of Radioactive Waste and Spent Nuclear Fuel Management in the Czech Republic" requires not only that a deep geological repository project be developed but also that relevant studies concerned with SF reprocessing and other technologies allowing the separation of long-lived radionuclides from spent nuclear fuel followed by their conversion to less hazardous radionuclides be monitored and supported. Such technologies could lead not only to a reduction in the number of radionuclide types contained in radioactive waste thus reducing the radiotoxicity of such waste but also to a softening of the requirements placed on a deep geological repository, particularly those concerning the period of time for which radioactive waste in the repository must be isolated from the environment. Consequently, RAWRA actively supports research in this field.

Studies were completed during the year on processes allowing the separation of minority actinides through their extraction from aqueous solutions in the commercially used Purex reprocessing application, whilst studies on pyrochemical separation methods (the fraction distillation of fluorides and electrochemical separation from fluoride melts) continued.

As regards transmutation, a study into the experimental verification of the function of transmutation modules, part of a development project for a molten salt reactor, was completed. Fluoride salts have been studied both as a suitable fuel component and a coolant; however, their use is subject to stringent requirements concerning structural materials. Two studies on the design of equipment for measuring the effects of fluoride salts under conditions similar to those characteristic of molten salt reactor operation were completed during the year. A study has been launched to experimentally evaluate corrosion in candidate structural materials caused by a specific eutectic fluoride salt mixture.

## Utilisation of Budget Funding for a Deep Geological Repository

Current expenses primarily include the costs of specific research and technology projects, consultancy services and expert opinions on projects related to the deep geological repository programme, the costs of running RAWRA's information centres etc. Capital expenses include the costs of design, research and development work related to the construction of a deep geological repository and research and development related to transmutation technologies.

<b>Utilisation of Departmental Budget Funding in 2006 (CZK 000)</b>				
Item No.	Item	Approved budget	Adjusted budget	Budget utilisation
5	Current expenses	2,600	3,810	3,746
6	Capitalexpenses	37,900	39,530	39,527
	Total expenses	40,500	43,340	43,273

## **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 support activities in compliance with licences issued by the State Office for Nuclear Safety (SÚJB) and as required by the Atomic Act. Further relevant documentation required for RAWRA to operate its repositories has been approved (the licence for the Dukovany repository has been extended to 31 December 2007 and for the Richard and Bratrství repositories to 31 December 2008).

In 2006, RAWRA obtained permission for the Dukovany repository to dispose of radioactive waste in an aluminosilicate solidifier and a certain volume of institutional radioactive waste in a cement solidifier. In order to obtain such permission, safety analysis at the repository was updated and the Radiation Limits and Operating Conditions together with Acceptance Criteria modified. A document containing a proposal for the definition of the control zone at the Dukovany repository was approved; this proposal better reflects the radiation situation at the repository.

As regards the Richard repository, the definition of the control zone was modified during 2006 in connection with studies into the experimental closing and sealing of certain chambers, part of a Phare project. Permission for the reconstruction of certain chambers was obtained in early 2006 applying the "hydraulic cage concept", as was permission for the conditioning of waste to be emplaced in the reconstructed chambers; both of which, obtained after respective safety analysis had been carried out, are effective upon completion of the Phare project. Changes to Acceptability Criteria were approved allowing the emplacement of 216-litre waste packages and reflect certain limitations relevant to that radioactive waste which must be permanently accessible.

The Bratrství repository was operated in accordance with an SÚJB licence effective up to 31 December 2008. Radiation Limits and Operating Conditions together with Acceptance Criteria were modified during 2006, as was the Monitoring Programme with the aim of directly monitoring radionuclides which are disposed of at the repository.

In order to meet all 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 is 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. No radiation protection breach occurred during the year.



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 the Atomic Act, Article 26, paragraph 3d) 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 15,453 historical references for the period 1965 to 1997, relating to more than 25,380 waste packages. This process will continue throughout 2007.

Data on 325 licence holders, 134 of them waste producers, had been recorded by the end of 2006. 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 75 items of nuclear material had been recorded by 31 December 2006. The major part of the depleted uranium (101 items) held by RAWRA was transferred to other organisations to be recycled or decontaminated during the year.

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

The administration of Nuclear Account funds was governed in 2006 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; and Act 337/1992, on the administration of taxes and levies, as amended. 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 1,302,327,000 while the yearly contribution made by the Nuclear Research Institute was CZK 452,000. Both amounts were paid in regular monthly instalments which were made directly to the Nuclear Account.

#### 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 in 2006 amounted to CZK 5,633,000.

Disposable funds in the Nuclear Account were invested by the Ministry of Finance in the financial market (in compliance with the Atomic Act, Article 27). The total gross return on these investments in 2006 was CZK 233 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.

The amended Atomic Act together with Regulation 360/2002 issued by the Ministry of Industry and Trade which sets out rules for the creation of financial reserves for the future decommissioning of nuclear plants and other nuclear facilities with effect from 1 January 2003, brought about a number of important changes to both the accumulation of such reserves and subsequent audits. A list was provided of organisations which are not required to accumulate decommissioning reserves including state organisations, public allowance organisations, public universities etc., and a financial limit below which this obligation does not apply was set. Rules for determining the period during which decommissioning reserves should be accumulated were modified: Whereas previously, the reserve was to be accumulated during the period of time up to which decommissioning commenced (i.e. the year in which decommissioning commenced was not included), this period has been extended, since 2003, to the date on which decommissioning ends. In addition, yearly contributions were substantially reduced in cases where decommissioning has been ongoing for several years or decades.

The amended Atomic Act also sets out the obligation to transfer decommissioning reserves to special earmarked accounts. Ambiguity and subsequent differences in opinion concerning the obligation to open earmarked accounts were partly clarified by the amended Act 593/1992, on reserves for identifying the basis for income tax assessment. 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 is filed. This rule was first applied for the fiscal year 2004.

Audits to verify the accumulation of decommissioning reserves are conducted under the following conditions:

- the organisation concerned is obliged to accumulate decommissioning reserves in compliance with amended Act 13/2002;
- the verified decommissioning cost estimate exceeds CZK 300,000;
- the organisation is in possession of a certificate verifying its decommissioning cost estimate;
- the organisation is in possession of an SÚJB licence and the proposed decommissioning method for the specified facility has been approved.

During 2006, as in previous years, RAWRA conducted audits aimed at verifying the accumulation of financial reserves in the previous fiscal year, i.e. 2005. Audits were conducted at 13 organisations comprising a total of 26 facilities. Two licence holders were excluded from the audit list following the update of decommissioning cost estimates which proved to be below CZK 300,000. Audits were performed in cooperation with the respective licence holders and requests by RAWRA for supplementary documentation were duly fulfilled. The obligation to deposit funds in specially earmarked accounts has applied since the fiscal year 2004. Audits since that time have shown that a number of organisations deposited funds in such accounts as early as before 2004 whilst others adhered strictly to legislation and deposited decommissioning funds for 2004 and subsequently for 2005.

The 2005 report on audits performed to verify the creation of financial reserves for the future decommissioning of nuclear plants and other nuclear facilities was duly prepared and presented to RAWRA's Board and the SÚJB in accordance with RAWRA Statutes.

### **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 are the main channels of communication employed to provide such information. The Prague information centre provides both individuals and groups of visitors with multimedia and computer presentations, display posters, models, film clips and printed materials throughout the year. RAWRA's specialists are ready at any time to answer questions relating to radioactive waste, its generation and management. Over 40 groups of young people from both secondary schools and universities in Prague and other areas of the country visited RAWRA's information centre in Dlážďená Street, Prague during 2006.

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. Following the establishment of a RAWRA



information centre at Rouchovany, which was well received by the local community, similar information centres were set up at a further three villages - Lubenec, Rohozná and Milíčov. 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. RAWRA information posters are also on display and printed materials available at specially altered premises on the ground floor of the community council building at Dolní Cerekev. An excursion to Sweden was organised in 2006 for representatives of local communities in which candidate repository sites are located. Participants visited the Äspö underground laboratory, met representatives of a local civic association and were provided with the opportunity to become familiar with modern technologies employed at a deep geological repository.

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

Number of applications for information under the Act	1
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 was adopted in compliance with Act 320/2001, on financial control in the public sector. The system is designed to reflect the Authority's specific conditions, principally its organisational structure, the number of staff employed and the combination of responsibilities where relevant.

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. Internal regulations define the functions of the Authority's financial officers, including the chief accountant, as well as the procedures to be applied should the required criteria not be met. A new management directive, The Reviewing of Proposals for Contracts, was drafted and published during the year which contains rules and procedures to be applied when reviewing proposals for investment as well as the procurement of professional or other services of a tangible or intangible nature with the aim of ensuring that contracts are entered into and executed in compliance with Czech legislation and RAWRA's internal regulations and funds are used in an efficient and justifiable way in accordance with the Authority's plan of activities and budget.

Management control as specified in Articles 26 and 27 of the Act 320/2001, i.e. preliminary, continuous and follow-up control, is ensured by responsible managers as part of the internal control system. RAWRA's work is governed by the yearly plan of activities, the budget approved by the Government and the principles of the internal control system. The Authority's financial management is supervised by RAWRA's Board the membership of which comprises 11 representatives of state administration, radioactive waste producers and the public. The Board meets five times a year to oversee the efficiency and usefulness of the funds employed by RAWRA.

Internal audits are performed, as stipulated in Articles 28 and 29 of the Act, by the internal auditor who is directly responsible to the Authority's Managing Director. Internal audits during 2006 were conducted according to a yearly plan approved by RAWRA's Managing Director.

Following a request from the Ministry of Finance for the regular verification of statements issued by the Authorising Officer charged with the management of Phare and Transition Facility projects, an internal audit aimed at reviewing both management compliance with and implementation of set guidelines and binding instructions vis-a-vis Phare and Transition Facility projects has been included in the yearly plan. Internal audits were performed in three areas: project management staffing, the funding of approved projects and the drawing up of relevant internal documents.

An income management internal audit was conducted at RAWRA in 2006 aimed particularly at verifying that set organisational and operating procedures were being duly followed. A further internal audit carried out during the year focused on the use of funds received by RAWRA from the state budget under Act 18/1997; the main issue involved being compliance with internal management and control system rules and relevant legislation.

Internal audits were mainly concerned with verifying the functioning of the Authority's management and control system and compliance with relevant legislation and internal regulations while the annual external audit, conducted in accordance with the Atomic Act, concentrated on the verification of RAWRA's 2006 financial statements.

The internal auditor's recommendations, based on audit results, were aimed at improving management procedures within the Authority, at the strict adherence to internal control system rules and the updating of internal regulations to reflect changes in legislation.

A report on the results of the various 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.

The management of the Authority's finances in 2003, 2004 and 2005 was audited in detail upon the request of RAWRA's Board. Audit results were discussed by Board members and the relevant recommendations implemented by RAWRA's management.

## **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 form a platform for meetings of specialists and the exchange of information. The most important aspects of international cooperation as far as RAWRA is concerned include 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. During 2006 RAWRA played a significant 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 is organised 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 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).

## Phare and Transition Facility Programmes in 2006

RAWRA was active during the year in coordinating the following 5 projects related to the various uses of nuclear energy conducted under the EU Phare and Transition Facility programmes organised by the EC Directorate General for Enlargement:

- a) The "Modernisation of the Laboratory at the Richard Repository for the Testing of Transport Containers" project (ZZ 632.02.03); commenced on 1 September 2004 and was completed on 15 November 2006.

The aim of this project was to ensure that the laboratory meets the requirements set out in new rules and regulations and obtains an internationally recognised certificate for the testing of containers designed for the transport, storage and disposal of radioactive waste. The project consisted of two parts: technical support and equipment supply. ŠKODA JS was chosen to supply the technical design whilst VF Černá Hora supplied the equipment. The project was completed in November 2006. The laboratory will be put into regular operation as soon as the relevant SÚJB licence is granted.

- b) The "Supply of Equipment for the Monitoring and Inspection of Radioactive Waste" project (CZ 5812.02.03); commenced on 1 September 2004 and was completed on 31 August 2006.

The objective of this project was to furnish the Richard repository with modern equipment for checking the waste packages accepted at the repository, monitoring the working and surrounding environment and the study of samples taken. The project consisted of two parts: technical support and the supply of equipment. ALLDECO.CZ was responsible for the technical details, designing measurement procedures and specifying equipment requirements, as well as preparing the invitation to tender for the supply of metering equipment. ENVINET Třebíč and VF Černá Hora were chosen to supply the equipment.

- c) The "Refurbishment of the Hot Cell at the Richard Repository" project (CZ 0403.01); commenced on 2 May 2006 to be completed on 2 May 2007.

The aim of the project is to refurbish and return the original hot cell in the operations building at the Richard repository to operation the reason for the project being that the hot cell in question did not meet the requirements of current legal regulations. The project consisted primarily of the supply of new manipulators and the upgrade of existing equipment. VF Černá Hora was the contractor for both the new and existing equipment.

The refurbishment of the operations building and adjoining external systems at the Richard repository was a necessary precondition for implementing the above projects ZZ 632.02.03, CZ 5812.02.03 and CZ 0403.01. Refurbishment costs were covered from RAWRA's own resources under a co-financing scheme. The refurbishment of the operations building was designed by EGP INVEST Uherský Brod and carried out by MONOSTAV Ústí nad Labem. Refurbishment work commenced in January 2006. A final inspection was carried out on 19 December 2006 and a certificate of practical completion issued on 24 January 2007.



- d) The "Realisation of Closure of Chambers in the Richard Repository" project (ZZ 632.02.04); commenced on 28 November 2005 to be completed on 30 September 2007. This project is based on the results of Phare project 01.14.03 entitled "Solution for Closure of a Chamber in the Richard Repository" which was completed in August 2005. The aim of the project is to refurbish chambers 8/2, 9 and 12 at the Richard repository, transfer historical radioactive waste disposed of at the repository from 1965 to 1985 to the refurbished chambers followed by the final emplacement of the waste, sealed in concrete backfill. The construction contractor is EREBOS – podpovrchová výstavba. The chambers were ready for radioactive waste acceptance as early as in July 2006. ALLDECO.CZ was responsible for waste compacting and the subsequent transfer of waste packages to the refurbished chambers under a contract with RAWRA in accordance with a co-financing scheme. A total of 3,917 packages of historical waste were transferred from chamber No.22 to the refurbished chambers. The outdoor drainage system and cables at the repository have already been repaired or replaced, co-financed by RAWRA and the Phare programme.
- e) The "Upgrade of the RAWRA Integrated Management and Information System to Ensure Repository Safety" (CZ 182.06.01) project; to commence in the 3rd quarter 2007 and be completed in the 4th quarter 2008. The project was approved by the European Commission as part of the Transition Facility programme for the financial year 2006. Tender documentation is expected to be prepared by the end of the 1st quarter 2007 and will be followed by the launch of the contractor tendering procedure.

### **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 ensure 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 2006 focused on the compliance of certain procedures with relevant internal regulations, which was duly verified, and on the optimisation of basic internal regulations with a view to incorporating these regulations into the quality assurance system so as to be consistent with ISO standards.

In the context of gradually improving the quality level of management directives and supporting internal regulations, a new internal regulation was issued concerning the compiling, reviewing and issuing of documents. A further new regulation was issued to enhance the parameters of external projects; the reviewing of project documentation will be undertaken in 2 or 3 stages (project objective, contract, tendering procedure, etc.). Following the reconstruction of the laboratory for the testing of transport containers, a quality assurance handbook was compiled to ensure that the laboratory is operated in accordance with EU standards for accredited test laboratories. The development of the project for the conditioning and disposal of radioactive waste at the Richard repository applying the hydraulic cage concept was reviewed according to RAWRA's quality assurance plan.

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 39 employees at the year end, including 2 employees on maternity leave. 1 new employee was recruited and 1 employee left the company during the year. As regards the staff educational profile, more than half the staff (51%) are university-educated employees while the rest (49%) have completed full secondary school education

A total of 15 one-off contracts for work concerning particularly peer and expert reviews on current projects as well as contracts for finance-related work were signed during 2006. A number of fixed-term employment contracts were also signed. As of 31 December 2006, RAWRA had 8 employees working under such contracts. RAWRA's staff attended various training courses in compliance with legislative requirements; the courses related to obligatory professional training, the further improvement of qualifications and language training. 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.

RAWRA fulfilled its obligation set out by Act 435/2004 (the Employment Act) concerning the obligatory proportion of handicapped persons employed on the staff. Contributions were made from the cultural and social needs fund (created pursuant to Regulation 114/2002) towards the cost of meals and supplementary pensions as well as towards the organisation of cultural and sports events. Furthermore, the cost of vitamin preparations for RAWRA employees was covered from this fund as well as birthday and retirement bonuses. Since the end of 2000 RAWRA's head office has been located in a completely refurbished Interior Ministry building at Dlážďená Street 1004/6, Praha 1 and is equipped with the office technology and company cars required in order to meet its varied responsibilities.

### **Utilisation of Managerial, Technical, Legal and Administrative Budget Funding**

Current expenses primarily include the costs of wages and salaries, insurance contributions, rent, materials and services. Capital expenses primarily include the costs of the technical upgrading of RAWRA's office facilities.

<b>Utilisation of Departmental Budget Funding in 2006 (CZK 000)</b>				
Item No.	Item	Approved budget	Adjusted budget	Budget utilisation
5	Current expenses	20,700	20,659	20,066
6	Capital expenses	500	120	111
	Total expenses	21,200	20,779	20,177

## Financial Management

RAWRA's activities are financed principally from Nuclear Account funds and grants from the state budget (in accordance with the Atomic Act, Article 28, paragraph 1) for the management of that radioactive waste disposed of prior to the Atomic Act coming into force.

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 586/1992), 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.

Utilisation of Budget Funding in 2006 (CZK 000)					
Item No.	Item	Approved budget	Adjusted budget	Budget utilisation	Utilisation percentage
	<b>EXPENSES</b>				
<b>5</b>	<b>Current expenses</b>	<b>63,000</b>	<b>63,000</b>	<b>59,114</b>	<b>93.8</b>
<b>501</b>	<b>Wages and salaries</b>	<b>12,150</b>	<b>12,150</b>	<b>12,150</b>	<b>100.0</b>
<b>502</b>	<b>Other remuneration</b>	<b>790</b>	<b>790</b>	<b>783</b>	<b>99.2</b>
<b>503</b>	<b>Employer's statutory insurance contributions</b>	<b>4,529</b>	<b>4,529</b>	<b>4,501</b>	<b>99.4</b>
5342	Transfer to fringe benefits fund	243	243	243	100.0
<b>6</b>	<b>Capital expenses</b>	<b>58,000</b>	<b>58,000</b>	<b>57,964</b>	<b>99.9</b>
<b>61</b>	<b>Asset acquisition and related expenses</b>	<b>58,000</b>	<b>58,000</b>	<b>57,964</b>	<b>99.9</b>
	<b>Total expenses:</b>	<b>121,000</b>	<b>121,000</b>	<b>117,078</b>	<b>96.8</b>
	<b>REVENUES</b>				
<b>2</b>	<b>Tax-free revenues</b>	<b>0</b>	<b>0</b>	<b>2 069</b>	
<b>411</b>	<b>Non-investment grants from the central budget</b>	<b>63,000</b>	<b>63,000</b>	<b>62,800</b>	<b>99.7</b>
4119	Non-investment grants from the state budget.	63,000	63,000	62,800	99.7
<b>421</b>	<b>Investment grants from the central budget</b>	<b>58,000</b>	<b>58,000</b>	<b>58,000</b>	<b>100.0</b>
	<b>Total revenues:</b>	<b>121,000</b>	<b>121,000</b>	<b>122,869</b>	<b>101.5</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 the purchase 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. Tax-free revenue consists mainly of charges paid by small waste producers during 2006 and transferred to the Nuclear Account in 2007 as well as revenue from test laboratory operation and international projects. 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 during 2006. Preparations continued for the development of a deep geological repository in which 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 Act 137/2006, 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 auditor Mr Vít Dobiáš, certificate No. 1593. The outcome of the audit shows that the keeping of accounting records and the financial statements comply with applicable regulations.

### Independent auditors' report for the year ended 31 December 2006

We have audited the financial statements of the Radioactive Waste Repository Authority comprising the balance sheet and the profit and loss account as at 31 December 2006, and an annex to the financial statements.

Our responsibility is to report our opinion on the financial statements audited. The audit has been conducted in accordance with the Czech Auditor Act, International Standards on Auditing and relevant implementing regulations issued by the Czech Chamber of Auditors. Under these legal regulations and in adherence to relevant ethical standards 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.

The audit includes audit procedures aimed at obtaining conclusive evidence relevant to the amounts and disclosures given in the financial statements. The audit procedures employed depend on the auditor's judgement, including his assessment of the potential risk that the financial statements might contain considerable irregularities due to fraud or mistake. Risk assessment considers the results of internal audits relevant to the preparation and presentation of the financial statements. The aim of internal audit assessment is to recommend adequate audit procedures without expressing the auditor's view of the efficiency of internal audit procedures. The audit also includes an assessment of the adequacy of the accounting methods employed and estimates made by the management of the accounting entity, and an evaluation of the overall adequacy of the presentation of information in the financial statements. We assume that the probative information obtained gives an adequate basis for forming our opinion.

In our opinion, the financial statements attached herein give a true and fair view of the assets, liabilities and the overall financial situation of the accounting entity as at 31 December 2006 as well as the costs, revenue and profit/loss for 2006 in compliance with the accounting regulations effective in the Czech Republic.

Prague, 19 February 2007



Vít Dobiáš

licence No. 1593

## Budget Utilisation as at December 2006 (CZK 000)

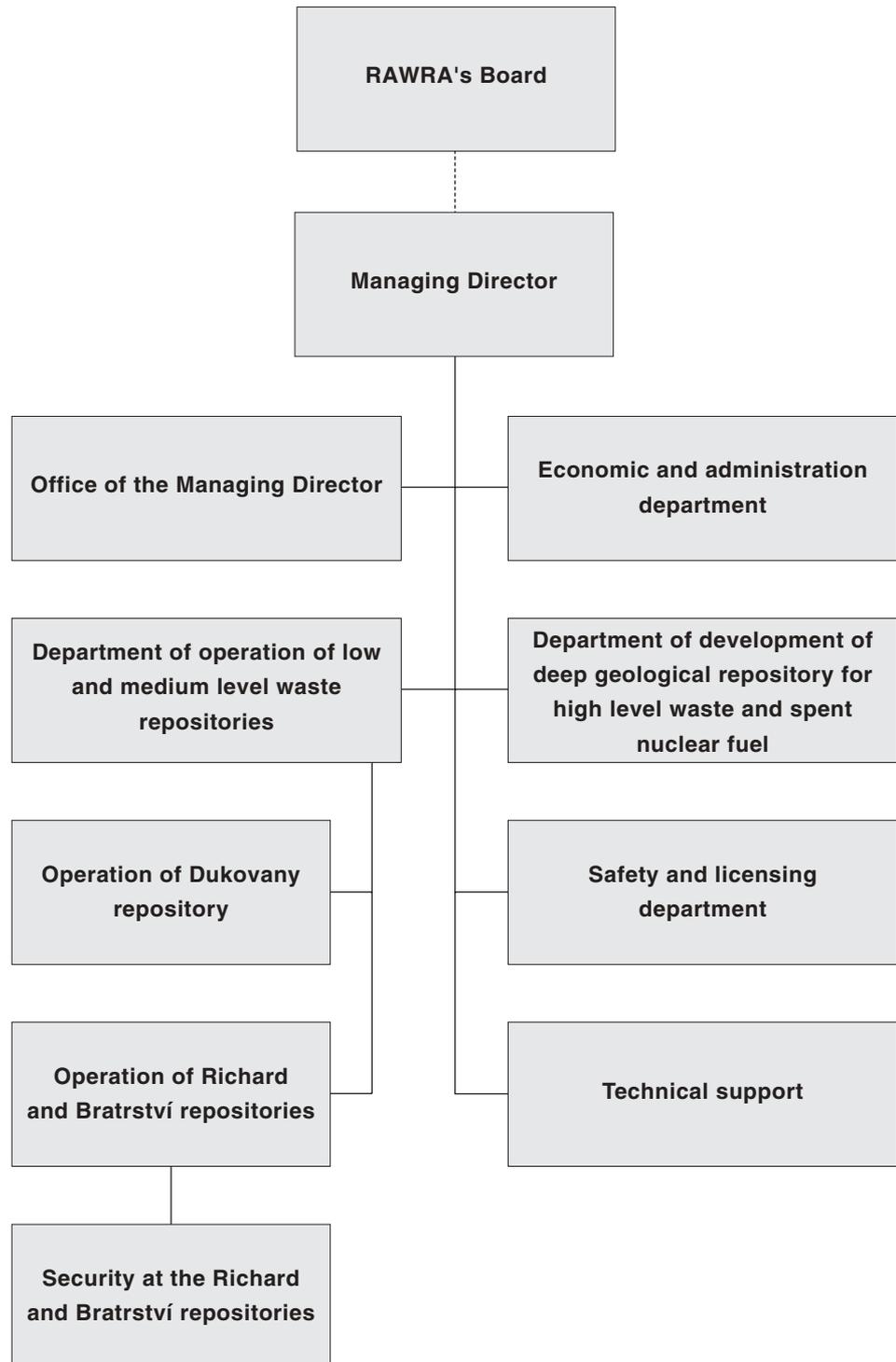
<b>BUDGET REVENUE</b>				
Item No.	Item	Approved budget	Adjusted budget	Budget utilisation
000021	Revenue from own activities and surplus contributions from directly related organisations	0	0	321
000023	Revenue from sales of non-capital assets and other non-taxable income	0	0	1,748
000041	Current grants received	63,000	63,000	62,800
000042	Capital grants received	58,000	58,000	58,000
	<b>TOTAL</b>	<b>121,000</b>	<b>121,000</b>	<b>122,869</b>

<b>BUDGET EXPENSES</b>				
Item No.	Item	Approved budget	Adjusted budget	Budget utilisation
372450	Wages, salaries and other remuneration non-investment acquisitions and related	17,469	17,469	17,434
372451	Expenses	40,787	40,744	36,919
372453	Non-investment transfers and other payments	244	272	248
372454	Non-investment transfers to local communities	0	15	13
372459	Other non-investment expenses	4,500	4,500	4,500
37245	Current expenses	63,000	63,000	59,114
372461	Asset acquisitions and related expenses	58,000	58,000	57,964
37246	Capital expenses	58,000	58,000	57,964
	<b>TOTAL</b>	<b>121,000</b>	<b>121,000</b>	<b>117,078</b>

## Balance sheet as at 31 December 2006 (CZK 000)

<b>ASSETS</b>	at 1 <sup>st</sup> Jan. 2006	at 31 <sup>st</sup> Dec. 2006
<b>A. Fixed assets</b>	<b>476,520</b>	<b>540,170</b>
1. Intangible fixed assets	166,355	204,591
Research and development	119,648	138,277
Software	6,913	8,778
Low-value intangible fixed assets	1,346	1,411
Intangible fixed assets under construction	38,449	56,126
2. Accumulated depreciation - intangible fixed assets	0	0
3. Tangible fixed assets	310,165	335,578
Land	3,924	3,924
Buildings, halls and structures	245,464	250,546
Machinery, equipment, vehicles, furniture and fixtures	45,927	54,838
Low-value tangible fixed assets	7,170	7,775
Tangible fixed assets under construction	7,680	18,496
Advance payments made	0	0
<b>B. Current assets</b>	<b>7,933</b>	<b>9,029</b>
1. Stocks	0	0
2. Receivables	523	1,668
Advance payments	510	1,041
Receivables from participants in an association	13	624
Receivables from employees	0	3
3. Financial assets	1,972	1,570
4. Budget management assets	5,438	5,791
<b>TOTAL ASSETS</b>	<b>484,454</b>	<b>549,198</b>
<b>LIABILITIES</b>		
<b>C. Own financial resources for covering assets</b>	<b>476,863</b>	<b>540,991</b>
1. Property funds	476,520	540,170
Fixed assets funds	476,520	540,170
2. Financial funds	104	98
Cultural and social needs fund	104	98
5. Profit and loss account	238	723
Balance of expenses and costs	-7,172	-7,280
Balance of income and returns	7,410	8,003
<b>D. Liabilities</b>	<b>7,591</b>	<b>8,207</b>
1. Reserves	0	0
2. Long-term payables	0	0
3. Short-term payables	7,591	8,207
Trade payables	1,471	1,744
Payables to employees	1	1
Payables to social security	492	514
Taxes and fees	189	157
Settlement of subsidies and payables to the state budget	5,438	5,791
<b>TOTAL LIABILITIES</b>	<b>484,454</b>	<b>549,198</b>

## Organisation Chart





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The photographs shown throughout the Annual Report are of potential sites for a deep geological repository.



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