SÚRAO

RADIOACTIVE
WASTE REPOSITORY
AUTHORITY

ANNUAL REPORT 2011

RAWRA'S MISSION

The Radioactive Waste Repository Authority is a state organisation established under the provisions of Article 26 of Act 18/1997, 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.

RAWRA's Annual Report, upon the recommendation of RAWRA's Board, is submitted by the Minister of Industry and Trade to the Government for approval, as required by the Atomic Act, Article 30, paragraph 1c.

The activities of the Radioactive Waste Repository Authority are supervised by its Board. The membership of the Board comprises representatives of the Ministry of Industry and Trade, the Ministry of Finance, the Ministry of the Environment, radioactive waste producers, the regions in which municipalities with radioactive waste repositories are located, as well as a representative of the public. Through its various decisions and recommendations, the Board takes an active part in RAWRA's activities throughout the year.

CONTENT

Mr. Jan Prachař
Acting Managing Director

MANAGING DIRECTOR'S INTRODUCTION

DEAR FRIENDS,

For the last fifteen years the Radioactive Waste Repository Authority (RAWRA) has provided for the safe disposal of low-level and intermediate-level radioactive waste and, for much of that time, has been working on the development of a deep geological repository for the disposal of high-level waste, thus successfully fulfilling its statutory obligations. We would like to inform you via this Annual Report on our activities and results achieved in 2011.

The operation of the Dukovany, Richard and Bratrství repositories and the disposal of radioactive waste at these repositories was undertaken in compliance with the relevant legislation and licences granted by the State Office for Nuclear Safety. Nuclear safety, radiation protection, physical protection, emergency preparedness and the maintenance of buildings, machinery and equipment were fully provided for at all times and at all operational repositories. A new gatehouse was constructed during the year at the Richard repository.

RAWRA continued to push ahead with the preparation of a deep geological repository for the disposal of high-level radioactive waste and spent nuclear fuel. Research projects were carried out as part of the program to study in detail the long-term behaviour of the waste disposal system. The updating of RAWRA's Reference Project for a deep geological repository continued throughout the year with the aim of consolidating the latest scientific knowledge and technologies available.

Communities in areas in which candidate repository sites are located are encouraged to actively follow and comment upon the process of updating the deep geological repository project which includes a number of considerations concerning the future construction and operation of such a repository. The project, which has been undertaken in cooperation with a highly respected Swedish radioactive waste disposal agency, also summarises the results of a range of research projects carried out under various EU programs concerned with science and research.

Geological work at potentially suitable repository locations has not yet been carried out; however. RAWRA's communications activities continued in those regions where candidate repository sites are located, focused primarily on gaining the understanding and approval of local people with regard to further investigation. We strive to communicate with the communities concerned in an open and sincere manner.

"RAWRA successfully fulfilled its mission as defined in the Atomic Act and maintained the required high standards in addressing its various obligations."

The "Dialogue on the Deep Geological Repository" working group, which was established in 2010 at the initiative of RAWRA and consists of representatives of the state, the various communities concerned and non-profit organisations, continued its activities with the aim of improving the transparency of the decision-making process regarding deep geological repository siting. This working group provides advisory services both to the Minister of Industry and Trade and the Minister of the Environment. RAWRA, in compliance with the Concept of Radioactive Waste and Spent Nuclear Fuel Management, is responsible for the coordination of the research and development of new technologies which might enable spent nuclear fuel to be reused in new types of nuclear reactors or which might reduce the content of long-lived radionuclides. These technologies are expected to be available for commercial use after 2030.

Preparations for the updating of the Concept of Radioactive Waste and Spent Nuclear Fuel Management in the Czech Republic continued during the year as did the testing of waste transport packages and containers at the test laboratory.

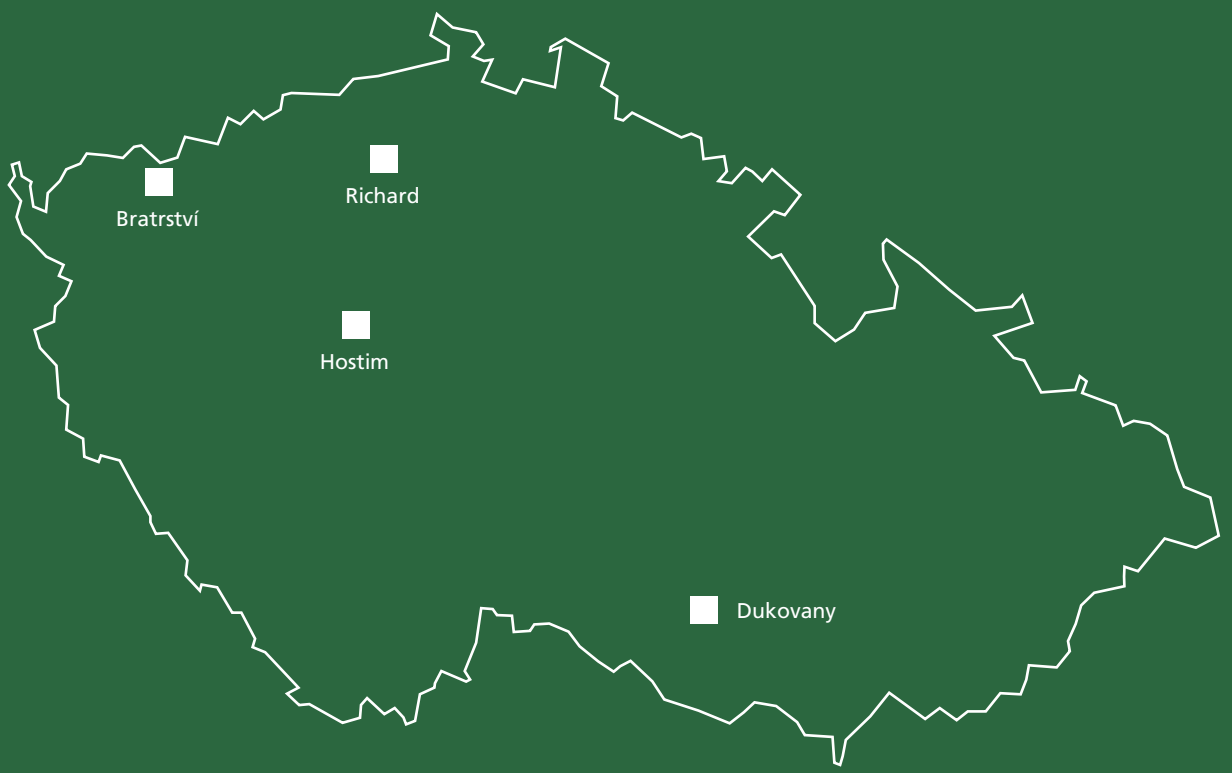
RAWRA's administrative obligations during the year included the supervision of Nuclear Account funds paid by radioactive waste producers, the verification of estimates of the costs involved and the creation of reserves for the decommissioning of nuclear and other facilities with ionising radiation sources, inventory maintenance 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.

RAWRA successfully fulfilled its mission as defined in the Atomic Act and maintained the required high standards in addressing its various obligations. I would like to express here 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.

Jan Prachař

REPOSITORIES



Radioactive waste is classified into categories according to its activity level (and the threat it poses to the surrounding environment), i.e. low-level, intermediate-level and high-level waste. To date, repositories exist in the Czech Republic for the disposal of low-level and intermediate-level radioactive waste only, three of which are operated by RAWRA whilst Hostim is monitored following closure.

DUKOVANY

THE DUKOVANY REPOSITORY WAS DESIGNED MAINLY FOR THE MANAGEMENT OF LOW-LEVEL AND MEDIUM-LEVEL RADIOACTIVE WASTE WHICH IS GENERATED BY NUCLEAR POWER PLANTS. THE REPOSITORY IS SITUATED WITHIN THE AREA OF THE DUKOVANY NUCLEAR POWER PLANT. IT HAS BEEN IN PERMANENT OPERATION SINCE 1995. THE TOTAL VOLUME OF THE DISPOSAL ROOMS IS 55,000M^3 (MORE THAN 180,000 DRUMS).

RICHARD

THE RICHARD REPOSITORY IS SITUATED IN THE RICHARD II FORMER LIMESTONE MINE COMPLEX. INSTITUTIONAL LOW-LEVEL AND INTERMEDIATE-LEVEL WASTE HAS BEEN DISPOSED OF AT THE REPOSITORY SINCE 1964. THE TOTAL DISPOSAL CAPACITY IS 8,500M^3.

BRATRSTVÍ

THE BRATRSTVÍ REPOSITORY IS LOCATED IN THE ABANDONED BRATRSTVÍ URANIUM MINE. THE REPOSITORY WAS GRANTED APPROVAL AND SUBSEQUENTLY COMMISSIONED IN 1974. THE TOTAL VOLUME OF THE TOTAL DISPOSAL CAPACITY IS APPROXIMATELY 1,200M^3.

HOSTIM

THE HOSTIM REPOSITORY IS THE OLDEST REPOSITORY IN THE CZECH REPUBLIC. IN 1965 REPOSITORY OPERATION WAS HALTED PERMANENTLY AND THE STATE SUBSEQUENTLY ASSUMED RESPONSIBILITY FOR THE SAFETY OF THE FACILITY. THE REPOSITORY WAS FINALLY CLOSED IN 1997 SINCE WHICH TIME RAWRA HAS CONTINUED TO MONITOR THE FACILITY ON A REGULAR BASIS.

Mr. Martin Březina
Head of the Repository Operation Department

CURRENT SITUATION IN RADIOACTIVE WASTE MANAGEMENT

Short-lived and low-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 and decommissioning of nuclear reactors and when dealing with ionising radiation sources. This waste can be disposed of in surface repositories. The technology for the processing and conditioning of radioactive waste prior to its disposal is well-established in the Czech Republic and has been approved by the State Office for Nuclear Safety.

Short-lived and low-level waste generated at nuclear plants is stored at a surface disposal facility located at the Dukovany NPP site. The facility's total disposal capacity of 55,000m^3 (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 acceptability criteria, as well as short-lived low-level and intermediate-level waste to be stored following the decommissioning of both nuclear power plants. In addition, this disposal facility can be partly used for the disposal of institutional waste.

Short-lived and low-level waste generated by industry, 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 mine (underground, beneath the Bídnice hill near Litoměřice). Institutional waste has been disposed of at this site since 1964. The total volume of this underground facility exceeds 17,000m^3, 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 one of the mined cavities of a former uranium mine and contains five chambers with an overall capacity of approximately 1,200m^3. The facility was put into operation in 1974.

The operation of all Czech repositories and the monitoring of the now-closed Hostim repository is managed 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 in accordance with mining legislation. The overall capacity of Czech repositories

> **The overall capacity of Czech repositories provides enough space for waste disposal for the next several decades. The construction of new facilities is currently not planned; the capacity of existing facilities for the disposal of low-level and intermediate level waste will be exploited to the optimum level and, if necessary, their enlargement will be considered.**

provides enough space for waste disposal for the next several decades. The construction of new facilities is currently not planned; the capacity of existing facilities for the disposal of low-level and intermediate-level waste will be exploited to the optimum level and, if necessary, their enlargement will be considered.

A certain amount of long-lived low-level and intermediate-level waste is also generated by nuclear power plants and various institutions; however, this waste cannot be disposed of in existing surface facilities. For this type of waste there are special requirements concerning the method and quality of conditioning necessary for its storage, and its subsequent disposal in a deep geological repository is envisaged. This waste is currently stored either by waste producers or by RAWRA.

High-level waste and spent nuclear fuel classed as waste will be disposed of in the deep geological repository. Until the time the deep geological repository comes into operation, this waste will be stored by its producers.

OPERATION OF THE DUKOVANY REPOSITORY

The Dukovany repository is operated by RAWRA through ČEZ, the Czech power company, on a contractual basis (in accordance with the Atomic Act, Article 26).

In 2011, the Dukovany repository accepted 2,499 packages of radioactive waste, of which 2,474 metal 200-litre drums and 25 storage pallets. Packages of radioactive waste were placed in vaults D10, D11 and D09.

In 2011 the Dukovany nuclear power plant delivered for disposal a total of 1,120 waste packages of bituminised waste, 24 waste packages of unstabilised waste and 923 waste packages of used ion exchangers solidified into a SIAL matrix. Of this amount, 315 waste packages of bituminised waste, 160 waste packages of used ion exchangers solidified into a SIAL matrix and 22 waste packages of unstabilised waste (bulky lump waste on pallets) were placed in vault D10. 805 waste packages of bituminised waste, 2 waste packages of unstabilised waste and 735 waste packages of used ion exchangers solidified into a SIAL matrix were placed in vault D11. 28 waste packages of used ion exchangers solidified into a SIAL matrix were placed in vault D09.

During the year the Temelín nuclear power plant delivered for disposal a total of 239 waste packages of bituminised waste, 170 waste packages of unstabilised waste and 20 waste packages of slurries solidified into a SIAL matrix. Of this amount, 149 waste packages of bituminised waste, 152 waste packages of unstabilised waste and 20 waste packages of slurries solidified into a SIAL matrix were placed in vault D10. 90 waste packages of bituminised waste and 18 waste packages of unstabilised waste were placed in vault D11.

In addition, 3 waste packages containing institutional waste (concrete cubes on storage pallets), originating from the Nuclear Research Institute Řež, (ÚJV Řež) were placed in vault D10.

The monitoring of the repository and the surrounding areas was performed in accordance with the approved monitoring program; no excess radiation or breach of the rules for the safe operation of the Dukovany repository were detected. Four inspections were conducted by the State Office for Nuclear Safety at the Dukovany repository during 2011; no serious breaches were discovered during these inspections.

Normal repository operation in 2011 included an inspection of buildings and equipment, the maintenance of buildings, land, machinery and electrical equipment, radiation protection, physical protection, emergency preparedness and nuclear safety.

OPERATION OF THE RICHARD AND BRATRSTVÍ REPOSITORIES

Both the Richard and Bratrství repositories were operated by RAWRA during 2011 in compliance with the relevant licences issued by the State Office for Nuclear Safety and the Czech Mining Authority.

In 2011, 175 standard waste packages (35m^3) were disposed of at the Richard repository with a total mass of 70.4t. A further 5 packages of radioactive waste were accepted at this repository with a total mass of 2t. No radioactive waste was disposed of at the Bratrství repository in 2011.

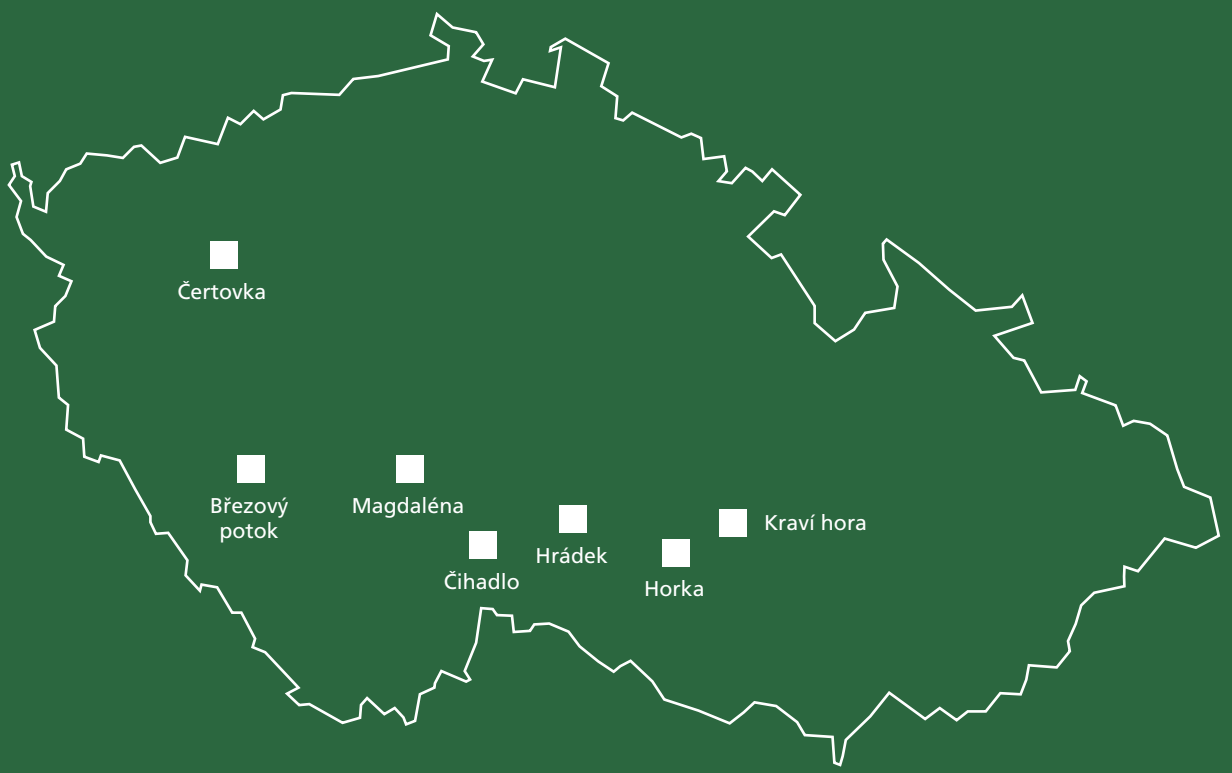
The geotechnical and hydrogeological parameters of the Richard and Bratrství repositories were monitored regularly throughout the year. Both facilities were operated in compliance with the relevant statutory safety requirements and legal regulations. Radiation monitoring of the repositories and surrounding areas was carried out in accordance with approved monitoring programs. RAWRA's performance was supervised during 2011 by the State Office for Nuclear Safety (five inspections at the Richard repository and two inspections at the Bratrství repository) and the relevant mining supervisory bodies. Both repositories were declared as being under safe operation according to national legislation.

Normal operation of both 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 State Office for Nuclear Safety, for the physical protection, radiation protection, emergency preparedness and nuclear safety of these repositories.

The test laboratory at the Richard repository is used to test containers designed for the transport, storage and disposal of nuclear material and radioactive emitters (with a mass of up to 3,200kg) as well as to test radioactive substances of special form. Three B(U) type transport containers and one A type container were tested. The laboratory also provided consultancy services to container users and manufacturers throughout the year. The laboratory's total income for 2011 amounted to CZK 551.4 thousand.

The Richard repository is currently being used for the temporary management of certain radioactive waste (according to a State Office for Nuclear Safety Decision issued in compliance with the Atomic Act, Articles 26 and 31). In 2011 one Decision was issued by the State Office for Nuclear Safety obliging RAWRA to provide for the safe management and subsequent disposal of such sources and waste.

LOCATIONS



Geological investigation consists of the collection of basic information in order to efficiently assess the suitability of individual locations for the construction of a deep geological repository. For this and other reasons it is important to perform such investigation work at a minimum of four candidate locations. The investigation work, however, cannot be carried out without the consent of the communities involved.

ČERTOVKA
BŘEZOVÝ POTOK
MAGDALÉNA
ČIHADLO
HRÁDEK
HORKA
KRAVÍ HORA

Ms. Soňa Konopásková
Head of the Safety and Licensing Department

LICENCING AND RADIATION PROTECTION

The main aim of activities related to the licensing procedure and radiation protection is to ensure repository operation and radioactive waste management compliance with the provisions of the Atomic Act and relevant Regulations, primarily Regulation 307/2002, on radiation protection, issued by the State Office for Nuclear Safety.

The licensing procedure for the Richard, Bratrství and Dukovany repositories is carried out every five years. If changes occur in repository operation or in the properties of the waste disposed of which might have an impact on the fulfilment of radiation protection requirements, the documentation for the licensing procedure is updated and RAWRA requests that the State Office for Nuclear Safety change its relevant decision.

The basic documentation required for the licensing procedure is prepared in compliance with the Atomic Act; the safety report makes up the basic document which proves the safety of the repository in terms of the staff employed at the facility, the general public and the environment. The scope of the safety report is specified in methodological instructions issued by the State Office for Nuclear Safety and based on recommendations from the International Atomic Energy Agency (IAEA) in Vienna. The radiation burden of staff members, the public and the environment is assessed using regularly verified procedures which fully comply with international best practice and IAEA recommendations. Computer programs used for calculations concerning the limits and criteria for repository operation are standardised by a State Office for Nuclear Safety commission.

In order to ensure the due radiation protection of staff members, the public and the environment as well as repository safety, set limits and criteria must be observed in terms of safe operation and acceptability criteria based on the results of safety analysis and approved by the State Office for Nuclear Safety.

Radiation protection activities make up one element of the system for the protection of persons and the environment against the detrimental impact of ionising radiation the main reason behind which is to prevent the release of radionuclides into the environment and the occurrence of emergency situations. The risk of danger to human life and health and the environment must be kept as low as possible with reasonable consideration for the economic and social aspects involved. The maximum acceptable level of risk corresponds to dose limits defined by Regulation 307/2002, on radiation protection.

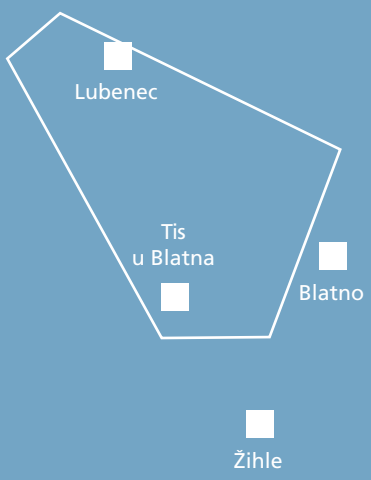
"The radiation burden of staff members, the public and the environment is assessed using regularly verified procedures which fully comply with international best practice and IAEA recommendations."

RAWRA operates its repositories and manages radioactive waste and the relevant support activities in compliance with licences issued by the State Office for Nuclear Safety and as required by the Atomic Act. Additional relevant documentation required for RAWRA to operate its repositories and manage radioactive waste at its repositories has been approved (the licence for the Dukovany repository has been extended to 15 December 2012, for the Richard repository to 31 October 2013 and for the Bratrství repository to 15 December 2013). No changes were introduced to the licensing procedure during 2011.

The fulfilment of requirements relating to radiation protection (as defined by Regulation 307/2002) has been verified during the monitoring of currently operational repositories as well as at the now-closed Hostim repository. Individual dosimetry of RAWRA's employees was provided, the health, expertise and skills of A and B category repository staff were verified and the inventory of RAWRA-owned radiation sources updated. No radiation protection breach occurred during the year. RAWRA cooperated closely with outside contractors working at its repositories in terms of organising training courses and regular safety inspections.

Concerning statutory requirements for radiation protection, RAWRA co-operated closely with the State Office for Nuclear Safety during their facility inspections and supervised the subsequent correction of any deficiencies identified relating to the observance of set limits, criteria for the safe operation of repositories, radioactive waste management and radiation protection. Requirements defined in Regulation 318/2002 on emergency preparedness were fully satisfied.

ČERTOVKA



The Čertovka location is situated in the 450 million to 505 million-year-old Tis granite massif which forms part of the Čistá-Jesenice granite massif. The results of work carried out so far at the location have revealed the existence of high-quality granite which is essentially free of extraneous elements and has only a low degree of cracking at depth. It is anticipated that planned geological exploration work will significantly refine existing data regarding the characteristics of the rock at the location and provide information concerning the depth and extent of the massif.


Žihle

Mr. Jozef Harčarik
Mining Operations Manager

MINING SAFETY AND OCCUPATIONAL SAFETY

MINING SAFETY

The operation of the Richard and Bratrství repositories is authorised based on licences which allow "specific encroachment into the Earth's crust" issued in compliance with the Mining Act and certain other licences issued in compliance with the Mining Operations Act.

Both repositories were operated throughout the year in compliance with relevant legal regulations and licences issued by the Czech Mining Administration and the State Office for Nuclear Safety as well as various internal operational regulations, limits and conditions.

In compliance with project implementation documentation approved by the mines manager and with the technological process employed in the stabilisation of radioactive waste in chamber K2 at the Bratrství repository, preparation work for the final stabilisation of this chamber by means of a special concrete mixture and subsequent clay-cement grouting commenced. A comprehensive inspection of all the machinery and technical equipment involved as required by mining legislation, in particular Regulation 22/1989 on mining health and safety, was performed prior to project commencement. Contractor employees were fully acquainted with all the relevant documentation. The time spent by each worker at individual locations within the repository was monitored and recorded and the impact of the inhalation of radon and long-term alpha activity evaluated by the relevant authorised institution throughout the preparation and concrete casting phases of the project.

Emergency preparedness exercises relating to the coordination of occupational safety were carried out throughout the year in accordance with the Emergency Plan issued by the mines manager and in conjunction with the Principal Mining First-Aid Station in Most. All employees involved in radioactive waste management took part in the emergency preparedness exercises. The exercises proved that the relevant internal regulations and measures in place are both appropriate and effective.

> **During 2011 no emergency situations or breach of relevant legislation concerning health and safety at work and fire protection occurred at any of RAWRA's facilities.**

Compliance with requirements for mining safety and operational capability is verified on a regular basis, as required by Act 61/1988, by the Czech Mining Authority via the relevant Regional Mining Authorities in Most and Sokolov. Inspections performed at both repositories during the year showed that the operation of the underground facilities was in full compliance with mining legislation, all the relevant measures and decisions concerning the safe operation of both repositories were fulfilled and, consequently, that no remedial action was required.

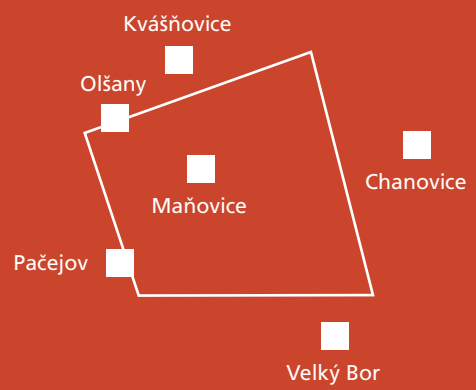
OCCUPATIONAL HEALTH AND SAFETY PROTECTION; FIRE SAFETY

Responsibility for occupational health and safety protection lies with RAWRA's management who are required to attend regular training sessions conducted by specially qualified persons. The aim is to ensure the safe operation of RAWRA's repositories without any adverse impacts on employee health and in compliance with the relevant legislation and internal regulations.

Health and safety at work training courses were organised by RAWRA for new employees working at all its facilities and inspections were performed aimed at verifying strict adherence to rules and regulations relating to health and safety at work; various inspections were carried out during the year at underground facilities. During 2011 no emergency situations or breach of relevant legislation concerning health and safety at work and fire protection occurred at any of RAWRA's facilities.

Fire regulations have been drawn up which set out basic fire protection principles for individual facilities. Action to be taken by RAWRA's employees or other persons in the event of fire are defined in the Fire Alarm Directive available to staff and visitors at all the Authority's facilities. The position of fire prevention specialist has been created at both the Richard and Bratrství repositories. A cooperation agreement was signed with the Principal Mining First-Aid Station in Most concerning procedures to be adopted in case of fire or mine cave-in.

BŘEZOVÝ POTOK



The Březový potok location is situated in the Central Bohemia granite zone (Central Bohemia pluton) in Blatno granitoide rock which is one of the most widespread rock types within the formation. The age of the rock is between 331 million and 346 million years according to various sources. Planned investigation work will broaden existing knowledge of the rock environment at the location and, consequently, of its suitability for the construction of a deep geological repository.


Chanovice

Mr. Zdeněk Laštovička
Senior Specialist for Quality Management

Mr. Miroslav Kučerka
Senior Specialist for Project Management and Technical Development

QUALITY MANAGEMENT AND TECHNICAL SUPPORT

QUALITY MANAGEMENT

RAWRA has had, practically since its foundation, a quality assurance system the aim of which is to ensure the highest standards of performance concerning its responsibilities as set out by the Atomic Act, Article 26, including supporting agendas (accountancy, the filing of documentation, personnel management, information technology administration, etc.). Quality assurance requirements are principally applied to those processes which relate to research and development in the field of radioactive waste management, the construction, operation and closure of repositories and RAWRA's obligations towards radioactive waste producers, state authorities and the public. The main objective of the quality assurance system is to ensure the highest possible levels of efficiency, quality and compliance with the various statutory procedures relevant to RAWRA's responsibilities.

Since 2010 RAWRA has gradually been introducing a modified quality assurance system in order to comply with the requirements of the EN ISO 9001/2008 standard; the most important document in the system is the Handbook on RAWRA's Quality Assurance System. Specific quality assurance programs for repository operation concerning activities related to the use of nuclear energy and radioactive substances management have been developed in compliance with Regulation 132/2008 issued by the State Office for Nuclear Safety and subsequently approved by the Office. These programs are updated every five years. Responsibility for the implementation and monitoring of individual activities has been defined for each repository in order to ensure the required quality level of individual repository operation. In addition, RAWRA continues to develop a quality assurance program for the siting of a deep geological repository.

A number of key management directives were drawn up or updated during 2011 (the Health and Safety at Work Instruction, Information Technology Management, Plan and Budget Preparation, the Internal Control System, Quality Auditing, Record Retention Regulations, etc.).

5 quality audits were conducted during 2011, of which 2 were performed at radioactive waste producers (ÚJV Řež and the VF Company). In addition, routine inspections of RAWRA's various administrative and physical processes were carried out. A small number of issues were cleared up quickly to the full satisfaction of the parties concerned and no serious deficiencies were detected during these inspections.

> **"The main objective of the quality assurance system is to ensure the highest possible levels of efficiency, quality and compliance with the various statutory procedures relevant to RAWRA's responsibilities."**

Training courses and inspections were organised during the year aimed at verifying strict adherence to rules and regulations relating to health and safety at work at all RAWRA's facilities; fire safety exercises were carried out at underground facilities. Additional expert qualifications concerning fire safety and risk assessment were acquired and requalification was undertaken relating to health and safety at work. Duly qualified persons, appointed by the Mining Operations Manager to be responsible for dealing with underground emergency situations, regularly attended the relevant training courses.

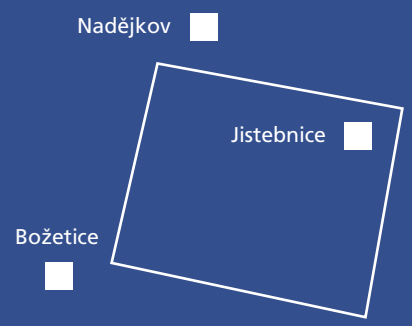
MAINTAINING AN INVENTORY OF ACCEPTED RADIOACTIVE WASTE AND NUCLEAR MATERIAL

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

RAWRA holds a State Office for Nuclear Safety licence for the management of category II nuclear material. An inventory of nuclear material is maintained in compliance with Regulation 316/2002 and EU Regulation 302/2005. Nuclear materials are stored at the Richard repository where the appropriate physical protection level is ensured as required by Regulation 144/1997 issued by the State Office for Nuclear Safety. In connection with the construction of a new gatehouse at the Richard repository, to which the repository's security and physical protection systems will be transfered, a Decision was issued by the State Office for Nuclear Safety on 22 July 2011 authorising the reconstruction of the physical protection system and approving the relevant implementing documentation. Completion of the reconstruction of the physical protection system is scheduled for April 2012.

RAWRA submits, on a monthly basis, both to the European Commission and the State Office for Nuclear Safety reports on the amount of radioactive materials disposed of. A total of 193 items of nuclear material had been recorded by 31 December 2011.

MAGDALÉNA



The Magdaléna location is situated in the Central Bohemia granite zone (Central Bohemia pluton). The area is known as the Devil's Burden which is the name of one of the local hills. The whole of the area consists of dark granite rocks known as durbachits estimated at 336 million years old. Investigation work carried out so far has revealed that the rock at this location is only slightly impaired and relatively homogenous. It is anticipated that planned investigation work will provide further information on the rock environment at the location.


Jistebnice

Mr. Jiří Slovák
Head of the Geological Repository
Development Department

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 Project for a Deep Geological Repository available on RAWRA's website (www.surao.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 sites commenced in the second half of 2003 with the aim of collecting more detailed geological data to reduce the surface area of each candidate site. Work carried out before 2004 was considered geological research (in terms of Act 62/1988, on geological work practices). An evaluation of the work performed was completed in 2005. However, in view of the overwhelmingly negative public attitude to the project, RAWRA, following agreement with the Ministry of Industry and Trade, suspended all geological work at the sites until 2009 (the Government, by means of Decision No. 550 of 2 June 2004, approved the suspension). This time period was to be used to identify conditions acceptable for both the Government and the local communities concerned so that work might continue. In May 2006 the candidate sites were included in the Land-Use Development Plan for the Czech Republic (approved by Government Decision No. 561 of 17 May 2006) an updated version of which (the Land-Use Development Plan 2008) was approved in 2009 (Government Decision No. 929 of 20 July 2009). The Plan requires that site selection be refined and conditions pertaining to land protection at the six potential sites applicable for the period prior to the selection of the two most suitable sites be clearly defined.

In late 2008, RAWRA, in compliance with its yearly plan of activities approved by the Government, launched an assessment of selected former military areas. The results of the first stage of the assessment process indicate that the required conditions could be met only at the Boletice and Hradiště former military areas. Geological research aimed at assessing former military area suitability continued during 2011.

A contract for a preliminary feasibility study for the siting of a deep geological repository within the Boletice candidate area was signed in 2011. The study involves the collection of data on the locality's properties, parameters and limits to its potential use, including conflicts of interest, proposals for siting variants and the design of the above-ground repository complex and its connection to the engineering infrastructure, the potential for connection to existing road or railway networks, an assessment of the viability of the above-ground complex in terms of socio-economic, technical, economic and environmental risks, and biological research. The study also includes a comparison of the assessment of the candidate area with those of the six other candidate localities being considered. The study will be completed in 2012; however, results to date have led to proposals for the siting of the above-ground complex and for two access road variants.

Rock environment monitoring was carried out in 2011 as part of an assessment of candidate localities in terms of their suitability for deep repository construction. The first stage involved an assessment of the behaviour of the rock environment with concern to processes which have an impact on long-term waste disposal safety. Rock masses are monitored in a number of underground facilities situated in host rock similar to that at candidate localities involving the monitoring of geodynamic, seismic, hydrogeological and hydrodynamic events. The results are used in the first stage of development in order to set the criteria for repository siting primarily in terms of specific processes at work within the rock mass. Subsequently, during the assessment stage, the results of monitoring will be used for the assessment of individual processes underway at candidate localities. The "Tunnel 2011" project in the Bedřichov area of North Bohemia was launched in 2011, conducted by the Technical University in Liberec which is also responsible for final results assessment. In addition, preparations are underway for the reference evaluation testing of hydrogeological conditions at the Hrádek locality accompanied by an assessment of the potential risks connected with geological investigation and the drilling of deep boreholes via the monitoring of the flow of groundwater at the site.

A project entitled "Selected Advanced Methods for the Study of Critical Radionuclide Migration in the Surrounding Environment of Repositories" was launched during the year consisting of two main parts: the modelling of reactive transport in the description of the migration of critical radionuclides in the near and far environments of repositories for the disposal of high-level radioactive waste and spent nuclear fuel, and the experimental study of the presence of significant forms of uranium in both ground and surface water. Interim results relate to four particular fields of interest:

- Verification of the methodology for the determination of low uranium concentrations in model solutions by means of fluorescence induced by laser radiation.
- Evaluation of methodologies used in the study of uranyl-sulphate complexes by means of spectrometric methods employing factor analysis; the comparison of determined values of stability constants of the relevant complexes with published data.
- Evaluation of column experiments in groundwater – radioactive contaminant – rock (soil) systems employing modifications to the analytical solutions of the one-dimensional transport equation.
- Development of models for selected types of diffusion and column experiments in the PHREEQC computer code environment considering the advanced description of multicomponent interaction with the surface of model rock material.

DESIGN ACTIVITIES

The updating of the Reference Project for a Deep Geological Repository, which plays an important role in the decision-making process relating to the selection of the technical design of the repository and the costs to be incurred at individual potential localities, continued in 2011. The project has provided significant information concerning horizontal spent nuclear fuel emplacement; conversely, however, the latest results have led to uncertainty concerning the design of the repository with regard to the potential impact in economic terms. Consequently, the results of the project and the subsequent international assessment will be followed by the optimisation of the Reference Project to be performed by a consortium team managed directly by RAWRA in cooperation with external consultants.

Preparatory work was carried out in 2011 for a project concerning the development of an underground facility in the Rožná uranium mine; the aim of the research project is to verify the suitability of the rock mass for underground radioactive waste disposal in a future deep geological repository. Such research projects have previously been conducted only outside the Czech Republic – in Switzerland (Grimsel) and Sweden (Äspö). The main advantages of the Rožná mine consist of its accessibility and proximity to the Kraví hora candidate locality. The facility will be operated jointly by RAWRA and Diamo Ltd. with regard to obtaining the necessary rights and mining operations licensing documentation including a licence for dealing with ionising radiation sources. According to the latest data provided by Diamo, it will be possible to operate the facility up to at least the end of 2018 which will provide enough time for a thorough study of the rock mass and the monitoring of individual events and processes therein for a time period which will allow the selection of a suitable final locality.

RESEARCH AND DEVELOPMENT RELATING TO ENGINEERED BARRIERS AND NEAR- AND FAR-FIELD PROCESSES

Several projects concerning research into radionuclide diffusion are currently underway including the "Experimental Study of Radionuclide Diffusion in Granitoid Rock" project being conducted by the Nuclear Research Institute Řež (ÚJV Řež) as part of the Grimsel underground laboratory's LTD (Long Term Diffusion) international project. The project is concerned, among other things, with the research of rock mass characteristics, the role of the rock matrix as a barrier, impacts on transport processes and other influential characteristics. Research continued in the Ruprechtov natural analogue area during the year as part of the "Study of Redox Condition Changes in the Rock Environment" project conducted by ÚJV Řež in cooperation with partners in Finland and Germany. The aim of the project is to further employ the results of the study of redox condition changes in the rock environment for an assessment of the transport of radionuclides in rock masses.

Concerning engineered barriers, the "Plug and Seal" international project is in the preparatory stage which consists of a pilot project designed by IGD-TP platform and realised by a consortium of radioactive waste management agencies: ANDRA (France), Nagra (Switzerland), Posiva (Finland), SKB (Sweden), RAWRA/Czech Technical University (Czech Republic), NDA (Great Britain) and GRS/DBE (Germany) and coordinated by Posiva. The Czech part of the project will consist of the conducting of experiments at the Josef underground facility, the laboratories of ÚJV Řež, the Technical University in Liberec and the Institute of Geonics of the Czech Academy of Sciences. The project is concerned with the study of a wide range of processes at work within engineered barriers following the disposal of spent nuclear fuel and will provide data for the subsequent assessment of the isolating capacity of the barrier system and demonstrate the feasibility of designing a repository employing materials available in the Czech Republic (bentonites). The project will be launched in mid-2012 and will reach completion at the end of 2015.

SUPPORTING RESEARCH PROJECTS

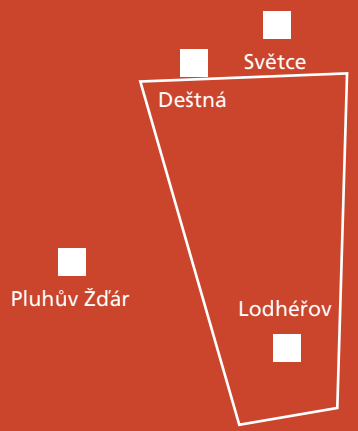
The Concept of Radioactive Waste and Spent Nuclear Fuel Management requires that, in addition to the development of a deep geological repository, the progress of technologies concerning separation (partitioning) and transmutation be monitored and supported. Such technologies allow the separation of long-lived radionuclides from spent nuclear fuel and their subsequent transmutation into more stable isotopes. Such technologies, used on an industrial scale, will bring about a significant reduction in the amount and, perhaps more importantly, the radiotoxicity of waste disposed of in deep geological repositories. With the support of ever more efficient technologies, basic requirements placed on a future deep geological repository will be eased: the time required for the waste disposed of in the repository to be isolated from the environment will be reduced as will be the size of the underground part of the repository due to lower heat development. Consequently RAWRA, in line with the Government's concept, wholeheartedly supports research in this field.

The "Characteristics of Nuclear Fuel Used" project (conducted by the Department of Nuclear reactors of the Czech Technical University, Prague) was completed in 2011. The final report sums up the main results of the study which primarily concern the activity, composition, heat output etc. of VVER-1000 fuel, depending on the way it is used in reactors (4, 5, 6 years), and MOX fuel, as well as the characteristics of waste produced by the reprocessing of VVER-1000 fuel in two scenarios (the partitioning of U and Pu and the potential subsequent partitioning of Cs and Sr). The report also contains an analysis of the likely impacts of the strategies considered (the impact on the price of uranium and the consequences for deep geological repositories). Calculations and analysis are based on a number of simplifying assumptions and do not consider the practical problems related to such strategies (e.g. MOX fuel is not manufactured for hexagonal cassettes, meaning that special cassettes are required accompanied by new nuclear power plant licensing procedures, etc.). It is anticipated that subsequent studies will primarily focus on those radionuclides of importance in terms of long-term repository safety.

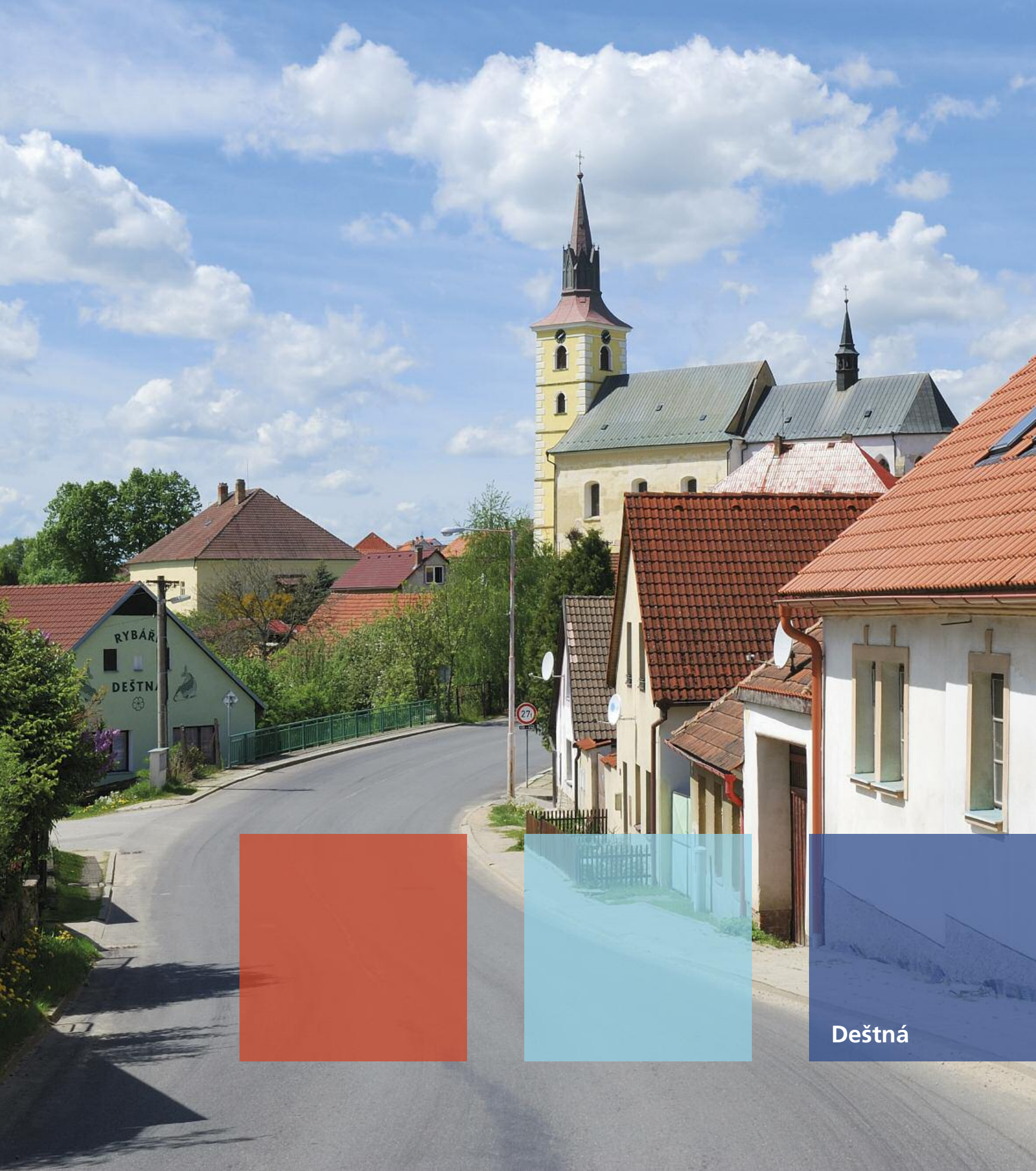
A project entitled "The Study of the Electrochemical Characteristics of Selected Actinoids and Lanthanoids in Melted Fluorides and their Application for Spent Nuclear Fuel Reprocessing" (conducted by ÚJV Řež) was completed and successfully peer reviewed during the year. The project was concerned with the study of electrolytic uranium deposition from fluoride melts, in particular the study of modulated current electrolysis and the electrochemical behaviour of thorium and selected lanthanoids in a LiF-CaF_2 melt.

"Preparatory work was carried out in 2011 for a project concerning the development of an underground facility in the Rožná uranium mine; the aim of the research project is to verify the suitability of the rock mass for underground radioactive waste disposal in a future deep geological repository."

ČIHADLO



The Čihadlo location is situated in the Klenová massif and forms part of a large granite area within the Bohemia massif which forms the backbone of the Czech-Moravian Highlands. The age of the granite varies between 298 million and 398 million years. The Klenová massif is a significant fault line running below the village of Lodhéřov northwards towards Deštná and consists of two parts both of which are, according to the results of work carried out so far, homogenous and only slightly impaired. Further investigation work will refine current information regarding the overall composition of the rock, rock development at depth and rock mass fracturing.



Deštná

Ms. Tereza Bečvaříková
Head of the Communications Department

PUBLIC RELATIONS

RAWRA has traditionally strived to enhance the public's awareness of radioactive waste and spent nuclear fuel and their management in the Czech Republic. The availability of information forms an essential precondition for a full discussion involving all the parties interested in finding the best way to tackle these issues.

Direct communication with the public in areas potentially eligible for the construction of a deep geological repository continued to be RAWRA's priority in terms of public relations in 2011. Communication focused on the presentation of RAWRA's plans to carry out geological investigation work in those areas in which local people provide their consent. RAWRA's website continued to be a valuable communications tool providing those interested with an opportunity to obtain a wide range of information on RAWRA's activities and download, if required, relevant RAWRA documentation. Information on current events was also made available on the website.

Information on all types of radioactive waste, currently operational or closed repositories, the deep geological repository project, the amended Atomic Act and radioactivity in general is available via professional presentations on RAWRA's full range of activities at its main information centre in Prague 1, Dlážděná 6, where RAWRA's head office is located, and at the Richard repository information centre near Litoměřice. In addition to these two information centres, RAWRA has information stands in Lubenec and Rohozná, at municipal offices in Dukovany and Rouchovany, and at its information "corner" in Dolní Cerekev. A total of 1,200 students from Prague and the surrounding area visited the main information centre in Prague in 2011.

For people in the Čertovka locality, particularly in the towns of Lubenec, Blatno and Žihle, RAWRA regularly publishes information on its activities in local newspapers.

RAWRA has a statutory obligation to provide information according to Act 109/1999, on free access to information. One application for information under the Act was received during 2011.

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	-

PUBLIC RELATIONS WORKING GROUP

The "Dialogue on the Deep Geological Repository" working group was established in 2010 at the instigation of RAWRA, supported by the Ministries of Industry and Trade and the Environment. The group, consisting of representatives of the various communities concerned, environmental organisations, the state, Parliament, academic institutions etc., is concerned both with coming up with ways in which to improve the transparency of the decision-making process regarding deep geological repository siting whilst fully respecting the interests of the general public and with strengthening the active involvement of the public and, specifically, the communities involved in the process. The group's activities are based, in terms of methodology, on the results and experience gained from the EC ARGONA project conducted as part of the 6th Framework Program for Research and Training. The main priority of the Dialogue working group is to strengthen the role of the communities concerned through legislative means.

RAWRA has a representative in the working group and takes an active part in the activities of the secretariat and the preparation of documentation to be discussed at the group's meetings, e.g. the preparation of draft legislation relating to the development and construction of a future deep geological repository (the preparation of a special Act on geological disposal).

INTERNATIONAL COOPERATION

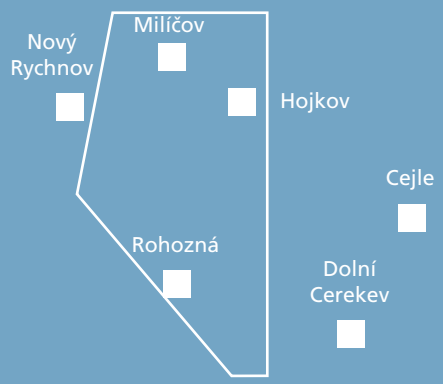
RAWRA is involved in the activities of a number of international organisations as are similar organisations in other countries which are committed to tackling radioactive waste issues in a responsible manner. Mutual cooperation, consisting of the exchange of information and direct participation in both practical scientific experiments and the activities of a number of international institutions, forms an integral part of what RAWRA considers a serious approach to issues surrounding radioactive waste and the nuclear program in general.

The European Commission (Euratom), the IAEA (the International Atomic Energy Agency) and OECD/NEA (the Nuclear Energy Agency of the Organisation for Economic Co-operation and Development) represent the main sources of information, instigate legislative and regulatory change and coordinate the majority of events in the field of radioactive waste management internationally. 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, is responsible for the fulfilment of requirements deriving from the Convention.

RAWRA, in cooperation with the IAEA, is a full member of DISPONET, a network of operators of low-level and intermediate-level waste repositories. Radioactive waste management issues are also handled by the OECD/NEA, specifically by the RWMC, its Radioactive Waste Management Committee. This committee is organised in the form of internal and external working groups. RAWRA specialists represent the Czech Republic in the IGSC (the Integration Group for Safety Case) and the FSC (Forum on Stakeholder Confidence) working groups. In 2011 RAWRA joined an RWMC project entitled Preservation of Records, Knowledge and Memory across Generations which is concerned with radioactive waste and waste repositories. The project was launched in September 2011 and will continue until September 2014; RAWRA has contributed € 22,428 towards the financing of the project.

RAWRA is active in a number of research and development projects financed by the European Commission both as a mediator and provider of support for the participation of Czech firms and research institutions in such projects and covers around half of the financial costs involved.

HRÁDEK



The Hrádek location is situated in the central part of the largest granite area of the Bohemia massif known as the Moldanubicum pluton. The age of the granite rock is estimated at between 303 million and 327 million years. The location is bordered on two sides by fault lines, one of which runs along the Rohozná valley and the other between the villages of Rohozná and Hojkov. The well-known Hojkov peat bog lies on this fault line, the presence of which indicates that the rock at depth is dry and only insignificantly impaired.


Cejle

Ms. Jaroslava Liehneová
Personnel and Internal Audit Manager

MANAGERIAL, MONITORING AND ADMINISTRATIVE MATTERS

INTERNAL CONTROL SYSTEM

RAWRA's internal control system was adopted in compliance with Act 320/2001, on financial control in the public administration sector, and implementing Regulation 416/2004. The structure of the internal control system respects RAWRA's specific nature, namely its organisational structure in relation to activities performed and the approved number of work positions.

The internal control system is defined in the following basic management directives: the Standing Orders; Staff Regulations; the Internal Auditing System; Budgetary Management; the Principles of Asset Management; the Circulation of Accounting Documents, and others. These documents set out the responsibilities of individual departments, the competences and responsibilities of the management and executive officers, as well as the main audit principles and methods to be adopted by RAWRA's management. Based upon these management directives, a number of in-house regulations have been drawn up which set out the rules governing individual activities and complement the internal control process. Internal regulations define the functions and responsibilities 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 and procedures for individual operations.

Other management directives define the requirements for the implementation of the basic processes in radioactive waste management and repository operation in terms of nuclear safety, radiation protection, physical protection, emergency preparedness, quality assurance and environmental protection and their fulfilment by RAWRA. These requirements are based on the provisions of the Atomic Act and implementing Regulations as well as State Office for Nuclear Safety Regulations. In addition, RAWRA adheres to generally binding regulations applicable to the public administration sector as well as Act 218/2000, on budgeting rules, Act 219/2000, on state property and Act 137/2006, on public contracts. RAWRA operates its quality assurance system according to, and employs the methods and procedures set out in, the EN ISO 9001/2008 standard.

An inspection by the Ministry of Industry and Trade was conducted in mid-2011 focusing on the implementation of the internal auditor's recommendations resulting from two audits performed in the first half of 2011. The Ministry, which was responsible for the establishment of RAWRA, was subsequently apprised of the findings by RAWRA's Managing Director.

> **"Internal auditing is increasingly focusing on current requirements, consultation relating to internal processes, commenting on relevant documentation and reviewing particular areas of the Authority's activities."**

Internal audits are managed and 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. Due to restriction on the number of approved work positions, the internal auditor is also responsible for the verification of the creation of financial reserves for the future decommissioning of nuclear plants and other nuclear facilities. Internal audits during 2011 were conducted according to a yearly plan approved by RAWRA's Managing Director.

Two audits focusing on the verification of statements of expenses for business trips abroad were performed at the request of RAWRA's Managing Director. Due to the complexity and scope of such audits, the services of the internal auditor were fully employed which led to a further planned audit having to be shifted into the draft plan for the following period. Internal auditing is increasingly focusing on current requirements, consultation relating to internal processes, commenting on relevant documentation and reviewing particular areas of the Authority's activities. In addition to the two internal audits performed, seven internal auditor's reports were prepared on a consultation and advisory basis, mostly at the request of RAWRA's Managing Director.

STAFFING AND PREMISES

RAWRA had 43 employees at the year end. As regards the staff educational profile, more than half the staff are university-educated while the rest have completed full secondary school education.

A total of 19 one-off contracts for work concerning particularly peer and expert reviews on current projects were signed during the year. As of 31 December 2011, RAWRA had 6 employees working under fixed-term employment contracts.

RAWRA's staff attended various training courses in compliance with legislative requirements; these 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 (set out by the Labour Code and the Fire Protection Act) were met by employing a specially qualified person.

RAWRA fulfilled its obligation as set out in Act 435/2004 (the Employment Act) specifying the proportion of handicapped persons in the total number of employees. The Authority employed one handicapped person and, in place of employing a second handicapped person, RAWRA purchased goods from a company the workforce of which is made up of more than 50% of handicapped persons.

RAWRA's cultural and social needs fund was originally created in accordance with Regulation 114/2002. Traditionally, contributions are made from this fund towards the cost of meals and supplementary pensions for employees as well as towards the organisation of cultural and sports events. However, the allocation to the fund was reduced in 2011 from 2% to 1% of total wages and salaries and, consequently, the utilisation of the fund was restricted to contributions towards the cost of meals and supplementary pensions only.

Since the end of 2000 RAWRA's head office has been located 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 various responsibilities.

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 facilities.

Audits were conducted at 12 organisations comprising a total of 33 facilities which met the following conditions:

- the organisation concerned is obliged to accumulate decommissioning reserves in compliance with amended Act 13/2002;
- the organisation is in possession of a certificate verifying its decommissioning cost estimate;
- the verified decommissioning cost estimate exceeds CZK 300,000;

Audits aimed at verifying the accumulation of financial reserves were conducted under the same rules as in the previous year. Audits were performed in cooperation with the respective licence holders and requests by RAWRA for supplementary documentation were duly met. Records of audits performed of individual licence holders were drawn up containing audit results, the amount of accounting reserves and the amount of funds deposited in special escrow bank accounts including a review of the development of the accumulation of financial reserves.

A report on audits performed in 2011 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 State Office for Nuclear Safety in accordance with RAWRA Statutes.

Act 223/2006 became effective in 2006 which amended Act 593/1992, on financial reserves. Two completely new provisions were introduced by the Act. Firstly, funds corresponding to the required financial reserves can be deposited in special escrow bank accounts at banks with head offices in any EU country. Secondly, funds held in such accounts can be used, with RAWRA's consent, for the purchase of government bonds denominated in Czech crowns. ČEZ subsequently applied for approval from RAWRA to purchase such bonds, intending to use this opportunity to increase the value of its long term decommissioning reserves. RAWRA, in compliance with Act 223/2006, approved the application for the use of funds deposited in escrow accounts for the period to 31 December 2011. ČEZ agreed to its funds being subjected to regular audits by an independent auditor and to submitting an auditor's report on an annual basis together with a review of the amount of funds so placed. In September 2011, following a further application from ČEZ, RAWRA granted its approval for the use of funds deposited in escrow accounts to purchase government bonds denominated in Czech crowns for the period to 31 December 2016.

IT DEPARTMENT SUPPORT

Concerning ICT, the reliable operation of the intranet including the required data backup was assured at all times. Servers were upgraded and their disk capacity increased, the internal information system, which ensures the electronic filing of documentation and digital document processing, was further improved and the content management system for the management of the RAWRA website, which facilitates both the publication of new information and the overall administration of RAWRA's web pages, was in full operation throughout the year.

Appropriate information systems and modern hardware are employed to support RAWRA's activities. The results of the "Server Room Consolidation" project led to the upgrading of the servers at the end of the year and the installation of new server operating systems (primarily from the Windows 2008 R2 family) including virtualisation. In addition, general security and communication with RAWRA's external facilities were updated; all the facilities now share a single computer network.

Company administration is supported by a number of information systems – for the economics department, for decision-making support, for most everyday administrative tasks as at any other company, for maintaining the inventory of accepted radioactive waste and its producers, etc. A new information subsystem for the filing of documentation in compliance with relevant legislation was introduced during the year

HORKA

The Horka location is situated in the Třebíč massif which has a triangular shape and covers an area of nearly 600km^2. The dark, potassium-rich granitoide rocks known as durbachits at this location are particularly suitable for the construction of a deep geological repository. No extensive occurrence of extraneous rock or significant rock faults have been found at this site to date. The results of investigation work carried out so far are favourable; however, the suitability of the rock mass must be confirmed both by further investigation work and laboratory testing.


Rohy

Mr. Vítězslav DUDA
Head of the Economics
and Administration Department

FINANCIAL MANAGEMENT

RAWRA's activities are financed primarily from the Nuclear Account and the state budget in compliance with the Atomic Act, Article 28, paragraph 1 which sets out rules for the management of radioactive waste disposed of prior to the 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 410/2009. RAWRA's budget is determined according to a budget structure defined by Ministry of Finance Regulation 323/2002, as amended.

RAWRA creates no reserves and all its revenues from services provided to radioactive waste producers as well as unused budget funding (provided as transfers) are returned to the Nuclear Account.

Item No.	Item CZK thousand	Approved budget	Adjusted budget	Budge utilisation	Utilisation percentage
	EXPENSES				
5	Current expenses	80,550	80,550	63,964	79.4
501	Wages and salaries	14,413	14,413	14,412	100.0
502	Other remunerations	1,019	1,019	931	91.4
503	Employer's statutory insurance contributions	5,249	5,249	5,099	97.1
5342	Transfer to fringe benefits fund	144	144	144	100.0
6	Capital expenses	51,965	51,965	38,361	73.8
61	Asset acquisitions and related expenses	51,965	51,965	38,361	73.8
	Total expenses	**132,515**	**132,515**	**102,325**	**77.2**
	REVENUES				
2	Tax free revenues			2,080	
411	Non-investment grants from the central budget	74,550	74,550	65,550	87.9
421	Investment grants from the central budget	51,965	51,965	42,550	81.9
	Funding through chapter 322 of the Ministry of Industry and Trade	6,000	6,000	4,310	71.8
	Total revenues	**132,515**	**132,515**	**114,490**	**86.4**

Expenses are subdivided into current expenses and capital expenses. Expenses relating to technical development projects, materials purchased and utilised, telecommunications services, rental payment services, 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 program, the reconstruction of existing repositories, the purchase of information technology and so on 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.

The budget for 2011 contained a reserve for contributions to local communities in areas in which investigation work takes place. Since a number of changes were made both to the legislation relating to such contributions and the preparation period required prior to the commencement of investigation work, the reserve, amounting to CZK 12 million, was not in fact used; since investigation work did not commence, the respective capital cost item was not fully utilised. A further capital cost item earmarked for the purchase of a building to be used as an information centre at the Čertovka locality was also not utilised; the purchase was not possible due to the legal repossession of the property prior to its sale which effectively halted the disposal process.

ADMINISTRATION OF NUCLEAR ACCOUNT FUNDS

The administration of Nuclear Account funds was governed in 2011 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 280/2009 (the Tax Code). 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 in 2011 CZK 1,414,131,000 while the yearly contribution made by ÚJV Řež was CZK 613,000. 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 2011 amounted to CZK 4,582,000.

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). Revenue received from financial investment totalled CZK 486.2 million in 2011 against CZK 483.2 million in 2010 which represents an increase of 0.6%. A total of CZK 17.1 billion was deposited in the Nuclear Account as at the end of 2011.

EVALUATION OF RAWRA'S PERFORMANCE

RAWRA met its responsibilities for the safe and reliable operation of Czech radioactive waste repositories during 2011 as defined in the Atomic Act. 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 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.

PROFIT AND LOSS ACCOUNT AS AT 31 DECEMBER 2011 (CZK 000)

I. BUDGET REVENUES

Item No.	Item	Approved budget	Adjusted budget	Year end result
21	Revenues from own activities and transfers of surplus	0	0	551
22	Penalty payments received and grant returns	0	0	0
23	Revenues from sales of non-capital assets and other revenues	0	0	1,529
41	Non-investment transfers received	74,550	74,550	65,550
42	Investment transfers received	51,965	51,965	42,550
	Funding through chapter 322 of the Ministry of Industry and Trade	6,000	6,000	4,310
	TOTAL	**132,515**	**132,515**	**114,490**

II. BUDGET EXPENSES

50	Wages, salaries and other remuneration	20,681	20,681	20,442
51	Non-investment acquisitions and related expenses	38,645	38,464	34,128
53	Non-investment transfers and certain other payments	21,144	21,160	9,153
54	Non-investment transfers to communities	80	95	95
59	Other non-investment expenses	0	150	146
5	Current expenses	80,550	80,550	63,964
61	Asset acquisitions and related expenses	51,965	51,965	38,361
6	Capital expenses	51,965	51,965	38,361
	TOTAL	**132,515**	**132,515**	**102,325**

Note: Items 41 and 42 consist of revenues from the Nuclear Account. A sum of CZK 4,310,000 was granted from the Ministry of Industry and Trade budget

BALANCE SHEET AS AT 31 DECEMBER 2011 (CZK 000)

ASSETS	Current period	Previous period
A. Fixed assets	**493,443**	**706,470**
I. Intangible fixed assets	229,284	348,674
II. Tangible fixed assets	264,159	357,796
III. Long-term financial assets	0	0
IV. Long-term receivables	0	0
B. Current assets	**15,424**	**6,220**
I. Stocks	0	0
II. Short-term receivables	1,331	1,387
III. Budget management assets	0	0
IV. Short-term financial assets	14,093	4,833
TOTAL ASSETS	**508,867**	**712,690**

LIABILITIES		
C. Equity capital	**490,444**	**698,173**
I. Owned capital and adjustments	503,249	706,525
II. Financial funds	25	62
III. Profit/Loss account	-12,830	-8,414
D. Liabilities	**18,423**	**14,517**
I. Expenditure accounts (budget management)	4,310	9,751
II. Reserves	0	0
III. Long-term payables	0	0
IV. Short-term payables	14,113	4,766
TOTAL LIABILITIES	**508,867**	**712,690**

KRAVÍ HORA

The Kraví hora location is situated in an area between two fault lines running from north to south and containing significant uranium veins. The Rožínka uranium mine is situated on the western line whilst the abandoned Olší mine is situated on the eastern line. The location consists of metamorphosed rocks – granulites, the chemical composition of which is similar to that of granites. Work performed to date indicates a relatively homogenous and only slightly impaired rock environment. Its suitability for the construction of a deep geological repository will have to be confirmed by further geological investigation work.


Věžná

AUDITORS' REPORT INCLUDING AUDITORS' OPINION

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 2009, and an annex to the financial statements.

MANAGEMENT'S RESPONSIBILITY FOR THE FINANCIAL STATEMENTS

RAWRA's management is responsible for the preparation and fair representation of the financial statements in accordance with Czech accounting regulations. This responsibility includes designing, introducing and implementing in practice a system of internal control relevant to the preparation and fair representation of financial statements that are free from material misstatement, whether due to fraud or error, selecting and employing appropriate accounting methods and making accounting estimates reasonable in the circumstances.

AUDITORS' RESPONSIBILITY

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 is 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 the 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, as well as 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.

AUDITORS' OPINION

In our opinion, the financial statements attached herein give a true and fair view of the assets and liabilities of the accounting entity as at 31 December 2011 as well as the costs, revenue and profit/loss for 2011 in compliance with the accounting regulations effective in the Czech Republic.

Prague, 14 March 2012

Vít Dobiáš
Licence No. 1593

RAWRA'S BOARD

The activities of RAWRA are supervised by its Board. RAWRA's Board is an important official component of the Radioactive Waste Repository Authority the responsibilities of which are set out in the Atomic Act. The Board primarily supervises the cost-effectiveness and purpose of expenses incurred by the Authority. Board members are appointed by the Minister of Industry and Trade usually for a five-year term. The membership of the Board comprises representatives of the state administration sector, major radioactive waste producers and the public. One representative of the public is appointed jointly by both Chambers of Parliament whilst the others represent those municipalities in which operating radioactive waste repositories are located.

IN 2011 RAWRA'S BOARD CONSISTED OF THE FOLLOWING MEMBERS:

Mr. Luděk Janík, Chairman of the Board (to the 67th meeting of the Board)
Head of the Nuclear Safety and Nuclear Area Management Unit Department at the Ministry of Industry and Trade
Mr. Roman Portužák, Chairman of the Board (from the 68th meeting of the Board)
Head of the Electrical Energy Department at the Ministry of Industry and Trade

REPRESENTATIVES OF THE STATE:

Ms. Zdeňka Vojtíšková, Department of Transport, Industry and Regional Development at the Ministry of Finance
Mr. Martin Holý, Director of the Rock and Soil Environmental Protection Department at the Ministry of the Environment

REPRESENTATIVES OF THE PUBLIC:

Mr. Bronislav Grulich, Chairman of the Jáchymov town council
Represents communities in regions with existing radioactive waste repositories
Mr. Miloš Kudera, Member of the Dukovany local council
Represents communities in regions with existing radioactive waste repositories
Mr. Pavel Gryndler,Ecologist and Head of the Environment Department of the Litoměřice town council
Represents communities in regions with existing radioactive waste repositories
Mr. Jan Horník, Senator, Vice-Chairman of the Senate Committee on Regional Development, Public Administration and the Environment and Chairman of the Boží Dar local council; represents the general public

REPRESENTATIVES OF RADIOACTIVE WASTE PRODUCERS:

Mr. Ladislav Štěpánek (Vice-Chairman of the Board), Director of the Fuel Cycle Section at ČEZ
Represents radioactive waste producers in the nuclear power sector
Mr. František Pazdera, CSc. (to the 70th meeting of the Board), Advisor on science and research at ČEZ,
Represents radioactive waste producers in the nuclear power sector
Mr. Štěpán Svoboda (since the 71st meeting of the Board), Head of the Research & Development Centre at Chemcomex Praha
Represents radioactive waste producers outside the nuclear power sector
Mr. Václav Urbánek (to the 70th meeting of the Board), Technical Director and Supervisory Board Chairman at Chemcomex Praha
Represents radioactive waste producers outside the nuclear power sector
Mr. Aleš John, Director General of the Nuclear Research Institute Řež
Represents radioactive waste producers outside the nuclear power sector

CONTACTS

RAWRA'S MANAGEMENT

Mr. Jan Prachař
Acting Managing Director
E-mail: prachar@surao.cz; tel.: +420 221 421 511

Mr. Jiří Slovák
Deputy Managing Director,
Head of the Geological Repository Development Department
E-mail: slovak@surao.cz; tel.: +420 221 421 525

Mr. Martin Březina
Head of the Repository Operation Department
E-mail: brezina@surao.cz; tel.: +420 221 421 527

Mr. Vítězslav Duda
Head of the Economics and Administration Department
E-mail: duda@surao.cz; tel.: +420 221 421 526

Ms. Soňa Konopásková
Head of the Safety and Licensing Department
E-mail: konopaskova@surao.cz; tel.: +420 221 421 518

Mr. Jiří Soudek
Head of the Information and Communication Technologies Department
E-mail: soudek@surao.cz; tel.: +420 221 421 529

Ms. Tereza Bečvaříková
Head of the Communications Department
E-mail: becvarikova@surao.cz, tel.: +420 221 421 519

Ms. Jaroslava Liehneová
Personnel and Internal Audit Manager
E-mail: liehneova@surao.cz; tel.: +420 221 421 533

Mr. Zdeněk Laštovička
Senior Specialist for Quality Management
E-mail: lastovicka@surao.cz; tel.: +420 221 421 531

Mr. Miroslav Kučerka
Senior Specialist for Project Management and Technical Development
E-mail: kucerka@surao.cz; tel.: +420 221 421 528

Mr. Jozef Harčarik
Mining Operations Manager and Senior Specialist for Health and Safety at Work and Fire Protection
E-mail: harcarik@surao.cz; tel.: +420 221 421 517

OTHER USEFUL CONTACTS:

Ms. Ivana Kédlová
Assistant to the Managing Director
E-mail: kedlova@surao.cz; tel.: +420 221 421 511;
fax: +420 221 421 544

Dukovany Repository
Mr. Ludvík Šindelář
Manager of the Dukovany Repository
E-mail: sindelar@surao.cz; tel. & fax: +420 561 103 423

Richard Repository
Na Bídnici 2412 01 Litoměřice
Tel.: +420 416 724 450; fax: +420 416 724 458

Mr. Václav Trhlík
Operations Manager of the Richard and Bratrství Repositories
E-mail: trhlik@surao.cz; tel.: +420 416 724 456;
fax: +420 416 724 458

Published by **SÚRAO** in 2012
Radioactive Waste Repository Authority
Dlážděná 6, 110 00 Praha 1
www.surao.cz

Design and production by **KUKLIK.CZ**