

Annual Report 2010



Radioactive Waste
Repository Authority



The Radioactive Waste Repository Authority (RAWRA) 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.

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Mr. Jiří Faltejsek, Acting Managing Director and Head of the Repository Operation Department

MANAGING DIRECTOR'S INTRODUCTION

Dear friends,

During 2010, 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.

The operation of the Dukovany, Richard and Bratrství repositories for the disposal of low-level and intermediate-level radioactive waste 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 garage was constructed during the year at the Richard repository and the construction of a gatehouse commenced.

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 programme 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 programmes 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. The establishment of a working group, the membership of which consists of the representatives of communities and non-profit organisations in the individual localities concerned, relevant Ministries and the State Office for Nuclear Safety as well as nationwide non-profit organisations, represented an important step forward in the creation of partnerships with communities in candidate localities. This working group is an advisory body both for the Minister of Industry and Trade and the Minister of the Environment. The preparation of an amendment to the Atomic Act has been initiated to allow contributions to be made to community budgets as early as at the geological investigation stage and to strengthen the position of communities in the decision-making process.

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. The testing of waste transport packages and containers continued during the year at the test laboratory and the burning test facility was upgraded.

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 in nuclear facility decommissioning, 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. As the result of a number of considerations concerning the construction of new nuclear power plants, the preparation of an updated version of the Concept of Radioactive Waste and Spent Nuclear Fuel Management commenced.

Mr. Vítězslav Duda, RAWRA's first Managing Director appointed as the result of a standard selection process, was removed from his position by Mr. Martin Kocourek, the Minister of Industry and Trade on 11 November 2010. Mr. Duda took over RAWRA's management in 1998 from Mr. Miroslav Kučerka who managed RAWRA from its establishment in June 1997. I would like to express my thanks to Mr. Duda for his many years of hard work and wish him every success in his future activities at RAWRA.

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.



Jiří Faltejsek

CURRENT SITUATION IN RADIOACTIVE WASTE MANAGEMENT

Short-lived low-level and intermediate-level waste makes up the largest category of radioactive waste in terms of volume. This type of waste, liquid and 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 low-level and intermediate-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 000m³ (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 all the 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 low-level and intermediate-level waste generated by industry and research and medical activities is disposed of at the Richard and Bratrstvi repositories.

The Richard repository was constructed on the site of the former Richard II limestone quarry (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 17,000m³, the disposal capacity making up approximately

half that volume, the remainder being service corridors. The Bratrstvi 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 near Jáchymov and contains five chambers with an overall capacity of approximately 1,200m³. The facility was put into operation in 1974.

The operation of all Czech repositories, including 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 provides enough space for waste disposal for the next several decades. The construction of new facilities is not planned; the capacity of existing disposal facilities 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; however, this waste cannot be disposed of in existing near-surface facilities. For this type of waste there are special requirements concerning the method and quality of conditioning necessary for its storage and eventual disposal in a deep geological repository. This waste is currently stored either by waste producers or by RAWRA. High-level waste and spent nuclear fuel classed as waste are also unsuitable for disposal in existing repositories. It is envisaged that the deep geological repository will also be used for the final disposal of these types of waste. Until such time as the deep geological repository comes into operation, this waste will be stored by its producers.



Placement of radioactive waste in an emplacement vault at the Dukovany repository.



Sealing of a filled vault; the space between individual drums has been filled with concrete.

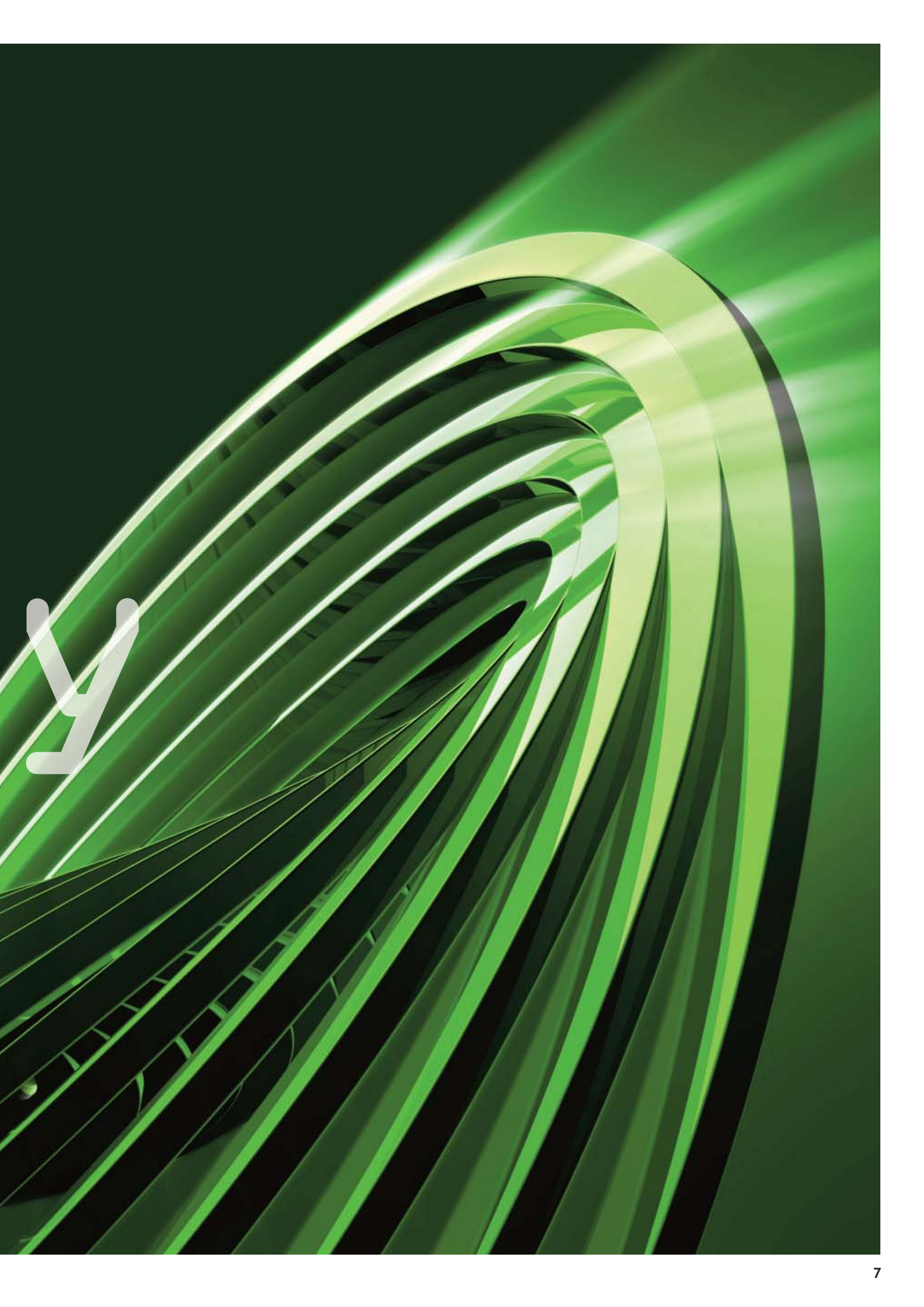


Completion of the temporary insulation of a filled vault (a final overlay will be added before repository closure).



Safet

The safe management of radioactive waste and spent nuclear fuel is our main priority as well as an obligation set out by the Peaceful Uses of Nuclear Energy and Ionising Radiation Act. We use methods aimed at providing maximum protection for the public, our staff and the environment from radiation exposure and the release of radioactive substances into the surrounding environment.





Mr. Jiří Faltejsek, Acting Managing Director and Head of the Repository Operation Department

OPERATION OF LOW-LEVEL WASTE REPOSITORIES

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 an annual inspection of buildings and equipment, the maintenance of buildings, land, machinery and electrical equipment, radiation protection, physical protection, emergency preparedness and nuclear safety.

The filling of vaults D10 and D16 continued during the year. By the end of 2010, 16 of a total of 112 vaults had reached capacity level and were sealed. In 2010, the Dukovany repository accepted 2,439 packages of radioactive waste (mostly 200-litre drums) with a total mass of 452.3t and a total activity level of 1,406GBq. Of this amount, 1,873 waste packages (364.7t) originated from the Dukovany nuclear power plant which comprised 982 drums of bituminised waste (218.6t) and 673 waste packages of unstabilised or lump waste (87,9t). A further 566 waste packages (87.5t) originated from the Temelín nuclear power plant which comprised 299 drums of bituminised waste (69.2t) and 267 waste packages of unstabilised or lump waste (18.2t).

The monitoring of the repository and 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. Four inspections were conducted by the State Office for Nuclear Safety at the Dukovany repository during 2010; no serious breaches were discovered during these inspections.

Operation of the Richard and Bratrství Repositories

Both the Richard and Bratrství repositories were operated by RAWRA during 2010 in compliance with the relevant licences issued by the State Office for Nuclear Safety and the Czech Mining Authority. 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 State Office for Nuclear Safety, for the physical protection, radiation protection, emergency preparedness and nuclear safety of these repositories. The third segment of chamber K22 in the underground facility of the Richard repository, which has reached capacity level, has been stabilised.

In 2010, 555 standard waste packages (115.5m³) were disposed of at the Richard repository with a total mass of 234.6t and a total activity level of 1,416GBq (of which 459.5GBq alpha emitters). A further 18 packages of radioactive waste were accepted at this repository with



a total mass of 3.2t and a total activity level of 762GBq (alpha emitters). The Bratrství repository accepted 34 packages (6.8m³) with a total mass of 10.9t containing only naturally occurring radionuclides with a total activity level of 64GBq (alpha emitters).

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. RAWRA's performance was supervised during 2010 by the State Office for Nuclear Safety (five inspections at the Richard repository and three inspections at the Bratrství repository) and the relevant mining supervisory bodies. Both repositories were declared as being under safe operation according to national legislation.

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 packages, one A type, one PO-09 and one IP-2 type packages were tested during the year. The laboratory also provided consultancy services to container users and manufacturers throughout the year. The laboratory's total income for 2010 amounted to CZK 473.1 thousand.

The Richard repository is currently being used for the temporary management of certain radioactive waste (according to a Decision issued by the State Office for Nuclear Safety in compliance with the Atomic Act, Articles 26 and 31). In 2010 two Decisions were issued by the State Office for Nuclear Safety obliging RAWRA to provide for the safe management and subsequent disposal of such sources and waste.

Funds employed for the disposal of historical radioactive waste

year	2007	2008	2009	2010
(CZK 000)	597,2	98,6	1800,4	3720,6



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 unless the State Office for Nuclear Safety decides otherwise or 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 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.

The radiation burden of staff members, the public and the environment is assessed using regularly verified procedures. Computing tools and computer software standardised by a State Office for Nuclear Safety commission are used in safety analysis to determine the consequences of radionuclide migration from repositories.

In order to ensure repository safety, set limits and conditions for safe operation and radioactive waste management, based on the results of safety analysis and approved by the State Office for Nuclear Safety, must be observed and requirements concerning the radiation protection of staff members, the public and the environment respected.

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.

RAWRA manages its repositories and relevant support activities in compliance with licences issued by the State Office for Nuclear Safety 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 15 December 2012, for the Richard repository to 31 December 2013 and for the Bratrství repository to 15 December 2013). No changes in the licensing procedure were introduced during 2010.



Radioactive waste in an emplacement chamber at the Richard repository.

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 checks of RAWRA's employees were carried out, the health, expertise and skills of A and B category repository staff verified and the inventory of RAWRA-owned radiation sources updated in 2010; 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 suppliers

and 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 and for radioactive waste management. Requirements defined in Regulation 318/2002, on emergency preparedness, were satisfied.



Mr. Jozef Harčarik, Mining Operations Manager

MINING SAFETY AND OCCUPATIONAL SAFETY

Mining Safety

At the near-surface Richard and Bratrství repositories, specific safety regulations pertaining to mining facilities are in place with regard to the underground facilities of these repositories. The operation of both repositories is authorised based on licences issued in compliance with the Mining Act and certain other licences issued in compliance with the Mining Operations Act and concerning the use of specified electrical equipment and machinery.

Inspections focusing on rock mass stability and the hydrogeological properties of the mine workings, mine air quality and emergency escape routes were performed during the year; systems and equipment employed at the repositories were also subject to inspection. A check of relevant technical documentation and the results of inspections performed revealed that all the equipment used in the underground facilities was in good condition; the stricter protection measures introduced were considered to be adequate.

An emergency plan has been prepared and issued, pursuant to the requirements of the Czech Mining Authority, as part of RAWRA's mining safety programme. The plan, which covers serious operational incidents, is regularly updated and all employees working in RAWRA's

underground facilities and persons entering such facilities are regularly informed of the contents of the plan. Specific persons, authorities and organisations which should be provided with information on emergency situations or might be called upon to deal with them are identified in the emergency plan. Emergency preparedness exercises were carried out throughout the year in accordance with the emergency plan and in conjunction with the Principal Mining First-Aid Station in Most. The exercises proved that the instructions and measures in place are appropriate, that employees are able to make emergency decisions and that all those involved are aware of their roles in such situations. Compliance with requirements for mining safety and operational capability was verified by the Czech Mining Authority through 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. No deficiencies were detected and, consequently, no sanctions were imposed or remedial action 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



Radioactive waste handling at the Richard repository.

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 regulations. Close attention is also devoted to the regular assessment, reduction and prevention of potential risk including that associated with the handling of radioactive materials and working in underground conditions.

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 Bratrstvi 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. During 2010 no emergency situations or breach of relevant legislation concerning health and safety at work and fire protection occurred at any of RAWRA's facilities.



Techno

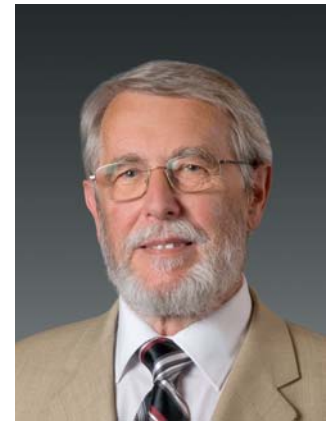
We employ the most advanced technologies available for radioactive waste management. Special laboratory and dosimetry equipment is used to determine with great accuracy the composition of the radionuclides contained in any material. Advanced methods are also employed for radioactive waste processing and treatment as well as the operation of repositories. Thanks to longstanding international cooperation, we first acquire and then prepare for practical application the latest expertise concerning the geological disposal of high-level radioactive waste.



logies



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 Assurance and Control; Safety

RAWRA has developed a quality assurance system the aim of which is to ensure the highest possible standards of performance. Priority quality assurance requirements include cost-effectiveness and the economic use of financial resources for research and development in the field of radioactive waste management, repository operation and good relations with radioactive waste producers, relevant state authorities and the public. The main objective of the system is to ensure high levels of efficiency, quality and full compliance with the various statutory procedures relevant to RAWRA's work. Specific quality assurance programmes, approved by the State Office for Nuclear Safety, have been developed for activities relating to the use of nuclear energy and the handling of radioactive materials, responsibility for which as well as for subsequent monitoring has been carefully defined for each repository.

As part of the quality assurance system introduction process and in compliance with the EN ISO 9001/2008 standard a number of management directives were drawn up and issued during 2010 (the Handbook on RAWRA's Quality Assurance System; Contract Management; Management of Documentation and Records; Management of Devices and Metering Equipment; Dispute Management etc.) some of which replaced previous in-house documents. 5 quality audits were conducted during 2010, of which 2 were performed at radioactive waste producers, the Nuclear Research Institute Řež and ČEZ-Temelín. 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.

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



Radioactive waste in an emplacement chamber at the Bratrství repository.

level is ensured as required by Regulation 144/1997 issued by the State Office for Nuclear Safety. 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 170 items of nuclear material had been recorded by 31 December 2010. An inspection of the methodology and efficiency of the physical protection system was carried out at the Richard repository by the

State Office for Nuclear Safety on 28 April 2010; a further inspection pertaining to the management of nuclear material and inventory maintenance was conducted by EURATOM and the State Office for Nuclear Safety on 7 October 2010. No deficiencies were detected during these inspections.



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).

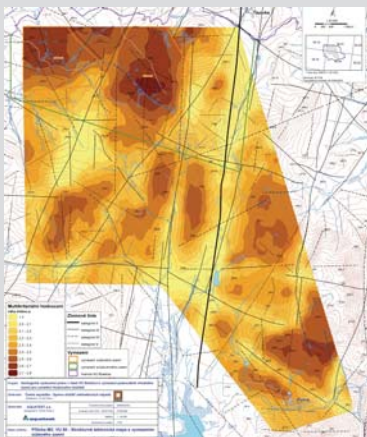
Site Selection

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). Evaluation of the work performed was completed in 2005. However, in view of the overwhelmingly negative public attitude to the project, RAWRA, in compliance with Government Decree 550 of 2 June 2004, suspended all geological work at the sites until 2009. 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 is ongoing.

Research work regarding a project entitled "Geological Research of the Boletice Former Military Area to Identify a Potentially Suitable Locality for the Siting of a Deep Geological Repository" was completed and peer reviewed in 2010. The project was carried out by Aquatest; peer reviewers consisted of experts from the Charles University Faculty of Sciences, the University of Mining Engineering in Ostrava and the Masaryk University in Brno. The geological research involved the analysis and interpretation of aerial and satellite photographs, the re-interpretation of aerial geophysical measurements, hydrogeological analysis, the update of statutory limits relating to conflicts of interest and field reconnaissance and measurement (geology, geophysics and



Structural and tectonic map of part of the Boletice former military area. The northern part of the area has been identified as potentially suitable for deep repository construction.

hydrogeology); in addition, the definition of the rock mass area suitable for the siting of the underground facilities of a deep geological repository was refined. The locality was further assessed in terms of conditions for the connection of the underground facilities to the above-ground repository complex. A potentially suitable homogenous locality was identified based on multi-criteria analysis and taking into account a number of differences with regard to geological structure compared to other candidate localities outside former military areas. The results of the research showed that, in geological terms, the rock mass in the northern part of the Boletice former military area can be considered a suitable host environment which should be further investigated as potentially suitable for the construction of a repository for spent nuclear fuel and high-level radioactive waste. Prior to making the final decision on the suitability of the Boletice area for the construction of a future deep geological repository, a locality adjacent to the proposed northern part of the Boletice area will have to be assessed in terms of its suitability for the construction of the above-ground facilities.

A number of related projects were conducted as part of the repository siting process:

The “Hypothetical Site Selection 2010” project, which is closely related to the study of the geological environment of a future repository, was carried out by the Czech Geological Service and its subcontractors. The objective of the project was to propose a series of geological investigations and related work at candidate sites based on the results of which a main and reserve locality would be selected. The results of this project consist of recommended geological investigation procedures including the technical analysis required for the characterisation of the rock mass at a future candidate locality and the methodology for the assessment thereof in terms of suitability for repository siting.

Geological research will be carried out in two stages. The timetable for and costs of the research involved form part of the project and will be used to provide background materials for the decision-making process concerning further procedures in the selection of a suitable locality for repository construction. The



“Research into Processes in the Far-Field Environment of a Deep Geological Repository for the Disposal of Spent Nuclear Fuel and High-Level Waste” project was completed in early 2011. The project was carried out over three years by the G-Consortium (consisting of the Czech Geological Service, the Nuclear Research Institute Řež, the Technical University in Liberec and Arcadis); the objective was the identification and characterisation of processes underway in the rock environment surrounding a future repository, in other words to acquire knowledge of the physical and chemical properties of the host granitic rock. The outcomes of the project consisted of a number of comprehensive reports including 38 partial final reports, peer reviewed by university professors and other experts, available both in printed form and via a special database developed as a part of the project and incorporated into the RAWRA information system. Considering the importance of the results and their potential usability for the wider specialist community, an English version of the final report entitled “Atlas of Plutonic Rocks and Ortogneisses in the Bohemian Massif” has been published both in printed form and on the internet.

The “Bedřichov Tunnel - Characterisation of Granitoids in Situ”, a further project focusing on the study of the properties of the host environment and on the development of pilot models for the prediction of rock mass behaviour, was completed in 2010. The main contractor for the project was the Technical University in Liberec a team from which monitored selected physical properties and designed an automated data transmission system with the aim of collecting realistic data on

Bohemian granitoid rock. Hydrogeological, hydrological, hydrochemical and climate values were monitored, as were movements along fractures at which dilatometers were installed, seismic tremors, rock mass temperature and variations thereof, changes in geophysical parameters due to changes in mining technology (resistance and seismic tomography) and potential deformations of the tunnel profile. Methodology was developed for data collection, transmission and storage including the selection of the data collection frequency most suitable in terms of the behaviour of the phenomenon monitored. The research primarily formed the preparation stage for the development, validation and verification of advanced mathematical models. Such models, which characterise the individual basic functions of the natural barrier, provide indispensable input for the study of the long-term safety of deep disposal systems.

The “Experimental Study of Radionuclide Diffusion in Granitoid Rock” project was launched in 2010 as part of the study of potential radionuclide migration paths from a deep repository. The contractor for this long-term project, to be completed at the end of 2013, is the Nuclear Research Institute Řež which will carry out the experimental part of the project under realistic conditions in cooperation with an international expert team. The outcome of the project will consist of a set of data describing diffusion and sorption in rock similar to that which makes up the Bohemian massif as obtained at the Grimsel, Switzerland underground laboratory. International experience relating to the research of far-field processes in granitoid rock can subsequently be utilised by Czech research teams.



Preparation for an experiment at the Josef Underground Educational Facility.



Research at the Grimsel underground laboratory.



Experimental research of shotcrete backfill technology.



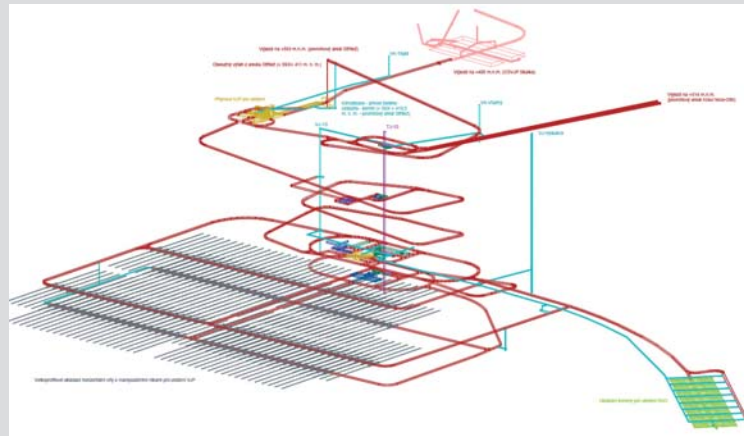
The research of redox conditions in the host rock is closely related to deep repository development. Such research has been carried out as part of the “Study of Redox Condition Changes in the Rock Environment” project conducted by the Nuclear Research Institute Řež in cooperation with GRS, a German company. The research, carried out in the Ruprechtov natural analogue area, is concerned with the subsequent laboratory research of samples from boreholes (chemical and mineralogical analysis, sequential extraction etc.) and the development of relevant methodologies.

A one-year project entitled “A Comparative Study Concerning Geophysical Measurements in the Bedřichov Mining Gallery” comprised comparative seismic and resistance measurements as well as pilot measurements applying the TDR (Time Domain Reflectometry) method along selected tunnel profiles. The aim of the project was to determine to what extent the measurement results depend on the measurement point and how the parameters characterising granitoid rock differ from those measured along profiles at the interface between hand- and machine-tunnelled corridors. The potential was studied of applying the TDR method to the characterisation of rock moisture conditions a knowledge of which might contribute towards the more precise interpretation of other parameters as well as towards a knowledge of processes active in the rock environment. The main contractor for the project was G-impuls which, with regard to methodology development, cooperated with the Charles University Faculty of Sciences.

The “Field Structural and Tectonic Analysis of Metamorphosed and Magmatic Rock” project was carried

out in 2010 by the Czech Geological Service. The field structure data gathered was used for the assessment and interpretation of tectonic breaches (of a brittle or ductile nature) of the rock environment in the investigated area in order to assess its suitability for deep repository construction. The relevant structure data was used for a comprehensive assessment of the given locality (together with the results of the analysis of distance data gathered using remote survey and geophysical methods). Planned project outcomes included both new and archive tectonic data represented in the form of structural and tectonic maps, overview tables of tectonic measurement results and structural profiles.

The “Skalka - Special-Purpose Digital Geological Maps” project was completed in 2010. Analogue and table-form archive data from the Diamo archive was transformed into electronic form and a database was created comprising selected important reports on previous investigation work carried out by Diamo. Subsequently, a set of geophysical, geological and mining maps was created which include geological profile - vectorised geophysical and geological maps, vectorised geological cross-sections, structural and geological stacked maps, catalogues of buildings, database sets and a digital archive. Further outcomes included geological maps interpreted at various depths including the anticipated depth of a future repository. The resulting maps were exported to the ESRI format and subsequently incorporated into the RAWRA GIS. The results will be employed in future studies as source documentation for the assessment of the area in terms of potential suitability for deep repository construction.



Geological conditions at a depth of 500 metres - Kraví hora - Spatial layout of a repository.

The aim of the “Structural and Geographical Interpretation of 1:25 000 Geophysical Measurements” project, carried out by Miligal, was the assessment of geophysical maps in comparison with existing geological and petrophysical data. The position of individual geological structures within the investigated area in terms of their representation on geophysical maps and the interrelations between these structures could thus be interpreted and significant tectonic phenomena in the area recorded.

A project entitled “Assessment of Existing Geological and Other Information on the Locality between Rožná and Olší Relating to the Identification of the Rock Mass as Potentially Suitable for Deep Repository Construction” commenced in 2010. The aim of the project is to assess the geological environment in the wider surroundings of Rožná and Olší in terms particularly of geology, geophysics, hydrogeology and hydrology. The following work is planned: the analysis and interpretation of satellite photographs, the re-interpretation of aerial geophysical measurement results, hydrogeological and hydrological work, field work (geology, geophysics,

hydrogeology and hydrology), multi-criteria assessment and the identification of the area to be investigated including limits relating to conflicts of interest. The methodology will be similar to that employed for the assessment of the former Boletice military area. The main contractor for the project is Aquatest.

Design Activities, Research into Near- and Far-Field Processes, and Safety Assessment

The potential design of both the underground and surface area structures of a deep geological repository is an important element of the deep geological repository programme. A Reference Project for a deep geological repository to be constructed at a hypothetical site was completed in 1999; certain parts of the project were subsequently updated. Research and development in this field provided large amounts of both new and refined information. In 2008 RAWRA selected a contractor for the updating of the Reference Project. During 2010 the second stage of the project was carried out involving the assessment of individual variants for the underground and surface area structures of the repository. Meetings



with representatives of the project teams of partner organisations, SKB and Posiva, were held in Sweden and Finland respectively as part of the project which will continue until the end of 2011. It is intended that the project will reflect the latest scientific knowledge and refine the requirements for the underground and surface area structures of the repository. The results obtained so far indicate that both the surface area of the repository and the amount of excavated rock can be reduced.

Research into engineered barriers forms an integral part of the deep geological repository programme. In May 2010 two projects focusing on the research of the long-term stability of bentonites as materials for engineered barriers were completed by the Centre for Experimental Geotechnics and the Institute of Chemical Technology in Prague. The projects concerned the study of the long-term stability of bentonite-based engineered barriers and involved the exposure of bentonite to limit conditions and experiments which modelled various situations which might be expected to prevail in a future deep disposal system conducted under both laboratory and “in-situ” conditions at the Josef underground facility. The impact of temperature, a saturation agent and a redox environment was studied in terms of factors which may cause a significant reduction in the quality of bentonite material which could subsequently lead to a loss in the ability to retard the migration of radioactive contaminants contained in radioactive waste. The bentonite samples did not undergo any significant

chemical change even after 18 months of exposure; the most significant physical discovery concerned changes to the specific surface of the bentonite.

A project entitled “The Measurement of the Isotope Mix in Spent Nuclear Fuel from VVER-440 Reactors and the Development of an International Benchmark for the Simulation of Specimen Irradiation” was completed in December 2010 (conducted by the Nuclear Research Institute Řež). This project formed part of an international project (ISTC #3958) conducted at RIAR Dimitrovgrad, Russian Federation; the radiochemical analysis of a total of 12 samples of spent nuclear fuel from a fuel assembly which was used in 6 fuel cycles at the Kola nuclear power plant was performed with the aim of gathering data on isotope mixes comprising a large number of isotopes. The results will be used, together with existing data, as validation data for computation codes for the prediction of the isotope mix in spent nuclear fuel or, more precisely, as comparative data for an international benchmark which will simulate the burn-up of nuclear fuel and isotope changes within the fuel. The final aim of the project is to determine the level of uncertainty in the prediction of the inventory of spent fuel and, consequently, the level of uncertainty of all values which are subsequently computed based on such data for use in deep geological repository development projects and for proving the long-term safety of such repositories.



Inspection day at the Josef Underground Educational Facility.



Preparation of an in-situ experiment simulating the vertical emplacement of a spent nuclear fuel container.



Ms. Věra Šumberová, Research Project Manager

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 the separation of various spent nuclear fuel components (partitioning) and their subsequent transmutation be monitored and supported. Such technologies allow the separation of selected elements, primarily very long-lived radionuclides and their subsequent further use for energy production or, if the reduction of the risk incurred by waste to be disposed of in a deep geological repository is the primary objective, their subsequent transmutation into stable or short-lived radionuclides. Such partitioning and transmutation 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.

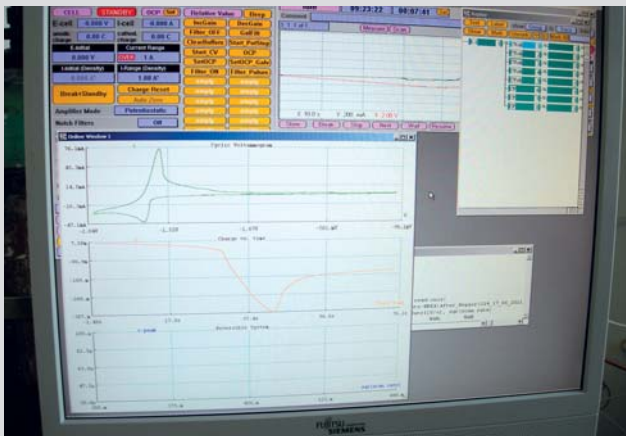
Partitioning studies focused solely on pyrochemical methods, specifically on electrochemical separation techniques in fluoride melts.

Such methods can be applied not only in the separation of usable components but also in the on-line adjustment of the fuel mix for molten salt reactors currently under development. The “Research and Development of

Electroseparation Technology for the Partitioning of SNF Components in Fluoride Melts” project, concerned with FLiNaK and LiF-NaF melts, was completed in June 2010 and a new project entitled “The Study of the Electrochemical Characteristics of Selected Actinoids and Lanthanoids in Melted Fluorides and their Application for Spent Nuclear Fuel Reprocessing” was launched. LiF-CaF₂ melt is used in the study both of the behaviour of europium, samarium, gadolinium and neodymium and electrolytic uranium deposition on electrodes in the presence of zirconium fluoride.

Utilisation of budget funding - deep geological repository

Current expenses primarily consist of the costs of particular research and technological projects, consultancy services and expert reviews of projects relating to the programme for the development of a deep geological repository, operating costs of information centres etc. Capital expenses include expenses resulting from design and research and development work related to the deep geological repository as well as research and development in the field of transmutation technologies.



The laboratory for electrochemical metering in fluoride melts at the Nuclear Research Institute Řež - an example of a user interface.



Work with electroseparation apparatus.



Glove box with an integrated high-temperature electrolyzer.

Public R

We provide regular information on our activities and objectives concerning the safe disposal of radioactive waste. The public has the right to know the risks relating to the operation of nuclear installations and their impact on the environment. Comprehensive environmental impact assessments of nuclear installations can provide the basis for well-balanced and transparent communication with the public. We are committed to effective dialogue with local residents and local authorities in those areas affected by our current and future operations.



relations



Ms. Ivana Škvorová, 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. The internet (the RAWRA website) and RAWRA's information centres and information "corners" located in areas potentially eligible for the construction of a deep geological repository provide the main channels of communication for the dissemination of information. The information centre in Prague, where RAWRA's head office is located, provides both individuals and groups of visitors with multimedia presentations, display posters and models, film clips and printed materials free of charge throughout the year. RAWRA's specialists are ready at any time to answer questions relating to radioactive waste, its generation and management.

In order to fulfil its mission responsibly, RAWRA is committed to communicating openly with municipalities and local populations in areas in which candidate repository sites are located. The full participation of the municipal authorities concerned and local people in the decision-making process, transparency at all times and open dialogue form integral parts of the deep geological repository project. Communication is targeted at the following six localities and two areas potentially eligible for the construction of a deep geological repository: Březový potok (Pačejov) locality in the Pilsen region; Čertovka (Blatno) in the Ústí nad Labem region; Čihadlo (Lodhěřov) and Magdaléna (Božejovice) in the South Bohemia region; Horka (Budišov) and Hrádek (Rohozná) in the Vysočina region, the Boletice former military area and the Kraví Hora area.

Partnership between RAWRA and the communities concerned can be achieved only if mutual confidence has been established and sufficient guarantees provided concerning safety and human as well as environmental protection, and the communities concerned are assured of the overall benefits of the project for them in terms of further local social and economic development. Meetings are organised by RAWRA on a regular basis (several times a year) in the 6 localities and 2 areas in which candidate repository sites are located with the aim of providing information on the progress of work relating to preparations for geological investigation.

Following a conference entitled "Way to the Deep Geological Repository", organised by RAWRA at the end of 2009 and supported by the Minister of Industry and Trade, RAWRA, in cooperation with the Nuclear Research Institute Řež, planned during the year for the establishment of a working group for dialogue on a future deep geological repository. The creation of the group was supported by the Ministry of Industry and Trade and the Ministry of the Environment. The group, consisting of 27 representatives of the various communities concerned, environmental organisations, the state, Parliament, academic institutions etc., will be concerned with ways in which both to improve the transparency of the decision-making process regarding deep geological repository siting and to strengthen the role of communities within this process. The group's activities will be based on the Riscom methodology and the results and experience gained from the EC ARGONA project conducted as part of the 6th Framework Programme for Research and Training. Draft rules have been prepared and a round table meeting involving all the parties concerned was organised in June at which the aims and



RAWRA organised excursions to the Temelín nuclear power plant for inhabitants of the localities concerned.

internal procedures of the group were discussed. A constitutive meeting was planned for September; however, at the request of the communities the meeting was postponed due to forthcoming elections. The meeting was finally held on 25 November 2010 at the Ministry of Industry and Trade.

An overview of further events concerning communication with the various localities:

- Excursions to the Temelín nuclear power plant - on 25 September, 10 October, 30 October and 6 November 2010 - were organised for local people from Lubenec, Žihle and Blatno (Čertovka locality) to provide an

opportunity for on-site discussion and detailed information on nuclear power plant operation.

- Meetings organised after the autumn municipal elections aimed at extending dialogue with all local council chairmen (on 14 December at Magdaléna, 15 December at Kraví Hora, 16 December at Hrádek and 21 December at Čertovka; a further 4 meetings were held in January 2011).
- Preparation of a local newspaper to be issued at Čertovka for 3 communities in order to provide regularly information on RAWRA's activities.

Provision of Information during 2009 according to Act 106/1999, on Free Access to Information

Number of applications for information under the Act	2
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	-



RAWRA strives to maintain good relations with stakeholders, particularly with the local populations of those areas in which operating repositories are situated. Permanent members of RAWRA's Board include representatives of municipalities in which low-level and intermediate-level radioactive waste repositories are located (Litoměřice, Jáchymov and Dukovany). RAWRA has a statutory obligation to provide information according to Act 106/1999, on free access to information. Two applications for information under the Act were received during 2010.

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 coordinate 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. 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, participates in fulfilling requirements deriving from the Convention.

RAWRA is a full member of DISPONET, a network of operators of low-level and intermediate-level waste repositories which was established by the IAEA. 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 (FSC) working groups. RAWRA organises and in some cases finances the participation of Czech representatives in specific projects. RAWRA also takes part in wider EC activities in the field of radioactive waste management.

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. Framework cooperation agreements have been signed between RAWRA and NAGRA (Switzerland) and POSIVA (Finland) amongst others and RAWRA has been involved in specific joint projects with SKB (Sweden).



Meeting with a Mexican delegation at Škoda JS.

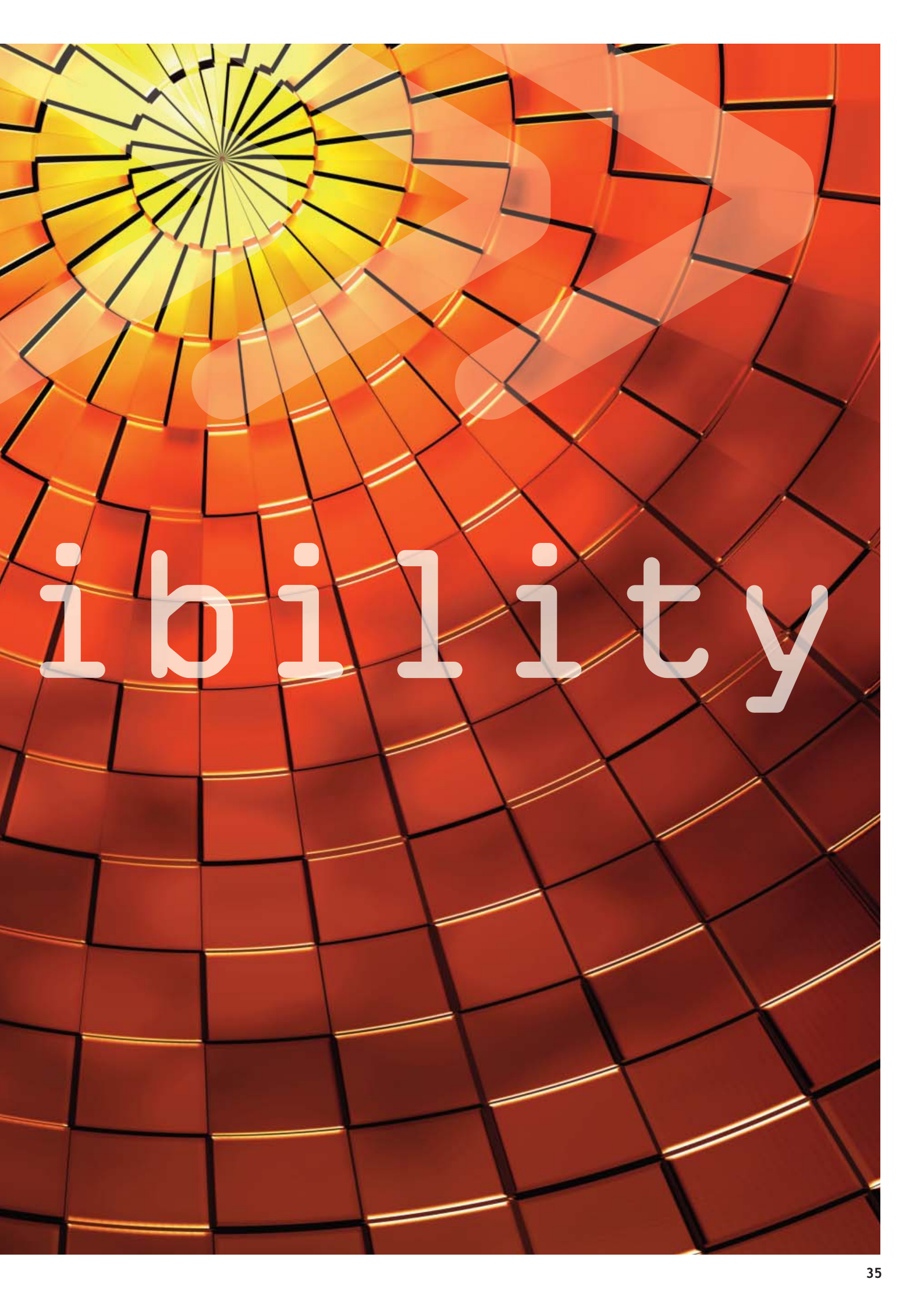


Mexican delegation visit to RAWRA - at the Dukovany nuclear power plant and the Richard repository.



Respons

We are well aware of our responsibility for the results achieved and for RAWRA's efficient financial management. Our performance is subject to regular quality control. Reports on repository operation and impacts on the environment are submitted both to inspection authorities and the general public.



ibillity



Mr. Milan Kaliba, 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 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 Act 586/1992, Article 18, paragraph 2c), 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 are returned to the Nuclear Account at the year end.

Expenses are subdivided into current expenses and capital expenses. Expenses relating to technical

RAWRA expenses in 2010 (CZK 000)

Item No.	Item	Approved budget	Adjusted budget	Budget utilisation	Utilisation %
EXPENSES					
5	Current expenses	74,400	76,000	75,224	99.0
501	Wages and salaries	16,780	16,780	16,780	100.0
502	Other remunerations	1,132	1,132	1,044	92.2
503	Employer's statutory insurance contributions	6,271	6,271	5,974	95.3
5342	Transfer to fringe benefits fund	336	336	336	99.9
6	Capital expenses	43,100	43,100	43,024	99.8
61	Asset acquisitions and related expenses	43,100	43,100	43,024	99.8
	Total expenses	117,500	119,100	118,248	99.3
REVENUES					
2	Tax free revenues	0	0	2,279	
411	Non-investment grants from the central budget	65,900	65,900	65,900	100.0
421	Investment grants from the central budget	43,100	43,100	43,100	100.0
	Funding through chapter 322 of the Ministry of Industry and Trade	8,500	10,100	9,752	96.6
	Total revenues	117,500	119,100	121,030	101.6



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 programme, 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.

Administration of Nuclear Account Funds

The administration of Nuclear Account funds was governed in 2010 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 1,399,912,000 while the yearly contribution made by the Nuclear Research Institute Řež was CZK 645,000. 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 2010 amounted to CZK 13,916,000.

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). Gross revenue for 2010 was CZK 483 million; a total of CZK 15.3 billion was deposited in the Nuclear Account as at the end of 2010.

Evaluation of RAWRA's Performance

RAWRA met its responsibilities for the safe and reliable operation of Czech radioactive waste repositories during 2010 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.



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. 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 in-house regulations have been drawn up which set out the rules governing individual activities.

Management control as specified in Articles 26 and 27 of 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 from state administration bodies, radioactive waste producers and the public.

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 2010 were conducted according to a yearly plan approved by RAWRA's Managing Director.

The internal auditor's recommendations primarily concerned the defining of responsibilities and specific procedures relating to certain selected activities following organisational changes within RAWRA. Recommendations based on audit results as well as recommendations made by consultants were aimed at improving management procedures within the Authority, at 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 which is the administrator of the relevant budget chapter.

Staffing and Premises

RAWRA had 44 employees at the year end, including four employees working on a part-time basis and one employee on maternity leave. 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 22 one-off contracts for work concerning particularly peer and expert reviews on current projects were signed during the year. As of 31 December 2010, RAWRA had 4 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 set out by Act 435/2004 (the Employment Act) by employing two handicapped persons.

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; the cost of vitamins 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 various responsibilities. Concerning ICT, the reliable operation of the intranet including the required data backup was assured at all times. The internal information system which includes the electronic filing of documentation and digital document processing was further improved. A new content management system was introduced for the management of the RAWRA website which facilitates both the publication of new information and the overall

administration of RAWRA's web pages. A new data network was developed in the administration building of the Richard repository to replace the existing outdated data network as the first stage of the updating of the data network throughout the whole of the Richard repository complex.

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 31 facilities. Audits aimed at verifying the accumulation of financial reserves were conducted in 2010 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.

A 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 State Office for Nuclear Safety in accordance with RAWRA Statutes.

PROFIT AND LOSS ACCOUNT AS AT 31 DECEMBER 2010 (CZK 000)

I. BUDGET REVENUES

Item No. Item	Approved budget	Adjusted budget	Actual
372421 Revenues from own activities and transfers of surplus	0	0	517
372422 Penalty payments received and grant returns	0	0	1
372423 Revenues from sales of non-capital assets and other revenues	0	0	1,761
372441 Current grants received	65,900	65,900	65,900
372442 Capital grants received	43,100	43,100	43,100
Funding through chapter 322 of the Ministry of Industry and Trade	8,500	10,100	9,752
TOTAL	117,500	119,100	121,030

II. BUDGET EXPENSES

372450 Wages, salaries and other remuneration	24,183	24,183	23,798
372451 Non-investment acquisitions and related expenses	40,873	42,442	42,054
372453 Non-investment transfers and certain other payments	9,339	9,334	9,344
372454 Non-investment transfers to local inhabitants	5	31	30
37245 Current expenses	74,400	76,000	75,224
372461 Asset acquisitions and related expenses	43,100	43,100	43,024
37246 Capital expenses	43,100	43,100	43,024
TOTAL	117,500	119,100	118,248

Note: Items 372441 and 372442 consist of grants from the Nuclear Account. A sum of CZK 10,100,000 was granted from the Ministry of Industry and Trade budget to cover the cost of historic radioactive waste disposal of which CZK 9,752,000 was used.



BALANCE SHEET AS AT 31 DECEMBER 2010 (CZK 000)

ASSETS	Current period	Preceding period
A. Fixed assets	706,470	670,615
I. Intangible fixed assets	348,674	313,437
II. Tangible fixed assets	357,796	357,178
III. Long-term financial assets	0	0
IV. Long-term receivables	0	0
B. Current assets	6,220	4,540
I. Stocks	0	0
II. Short-term receivables	1,387	1,372
III. Budget management assets	0	0
IV. Short-term financial assets	4,833	3,168
TOTAL ASSETS	712,690	675,155
LIABILITIES		
C. Equity capital	698,173	671,851
I. Owned capital and adjustments	706,525	671,807
II. Financial funds	62	44
III. Profit/Loss account	-8,414	0
D. Liabilities	14,517	3,304
I. Expenditure accounts (budget management)	9,751	0
II. Reserves	0	0
III. Long-term payables	0	0
IV. Short-term payables	4,766	3,304
TOTAL LIABILITIES	712,690	675,155

RAWRA'S BOARD

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 representatives of the public. Through its various decisions and recommendations, the Board takes an active part in RAWRA's activities during the year.

In 2010 RAWRA's Board consisted of the following members:

Mr. Luděk Janík, Chairman of the Board
Head of the Radioactive Waste and Nuclear Safety Department at the Ministry of Industry and Trade

Representatives of the State:

Mr. Dalibor Stráský (to the 63rd meeting of the Board)
Ministry of the Environment representative

Mr. Martin Holý (from the 64th meeting of the Board)
Ministry of the Environment representative

Ms. Zdeňka Vojtíšková
Economist at the Ministry of Finance

Representatives of the public:

Mr. Miloš Kudera
Chairman of the Dukovany local council
Represents communities in regions with existing radioactive waste repositories

Mr. Pavel Gryndler

Head of the Environment Department of the Litoměřice town council. Represents communities in regions with existing radioactive waste repositories

Mr. Bronislav Grulich

Chairman of the Jáchymov town council
Represents communities in regions with existing radioactive waste repositories

Mr. Jan Horník

Senator
Represents the general public and regions with planned radioactive waste repositories

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

Advisor on science and research at ČEZ. Represents radioactive waste producers in the nuclear power sector

Mr. Václav Urbánek

Technical Director and Supervisory Board Chairman at Chemcomex Praha. Represents radioactive waste producers outside the nuclear power sector

Mr. Aleš John

Director General and Chairman of the Board of the Nuclear Research Institute Řež. Represents radioactive waste producers outside the nuclear power sector

RAWRA'S STAFF



From left:
Jozef Harčarik
Václav Trhlík
Marcela Balášová
Jiří Zahn
Jiří Faltejsek
František Koutek
Martina Ligaunová
Miloš Janů
Jolana Kubátová
Lucie Ottová
František Železný
Antonín Knobloch
Antonín Hlušička



Upper row, from left:

Vítězslav Duda, Ivana Škvorová, Josef Dufek, Jana Irinková, Soňa Konopásková, Jaroslav Jelínek, Jitka Mikšová, Michal Kaliba, Lenka Čerbačeská, Zdeněk Laštovička, Miroslav Kučerka, Helena Janečková, Jiří Soudek, Jiří Slovák, Jana Šoltéssová, Jozef Harčarik

Lower row, from left:

Markéta Dvořáková, Jaroslava Liehneová, Ivana Kédlová, Marcela Žáková, Eva Šebestová, Zdenka Čmielová, Věra Šumberová, Eva Pokorná, Helena Čížková

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Head of the Geological Repository Development
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Acting Head of the Communications Department
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